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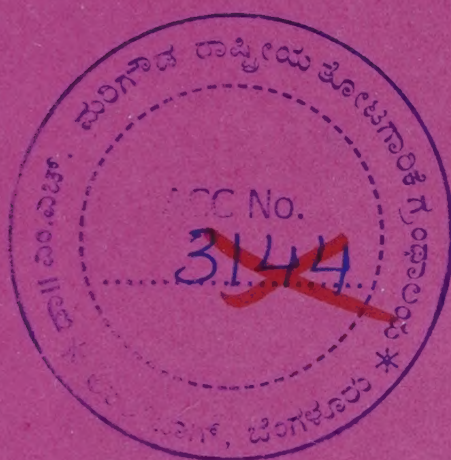


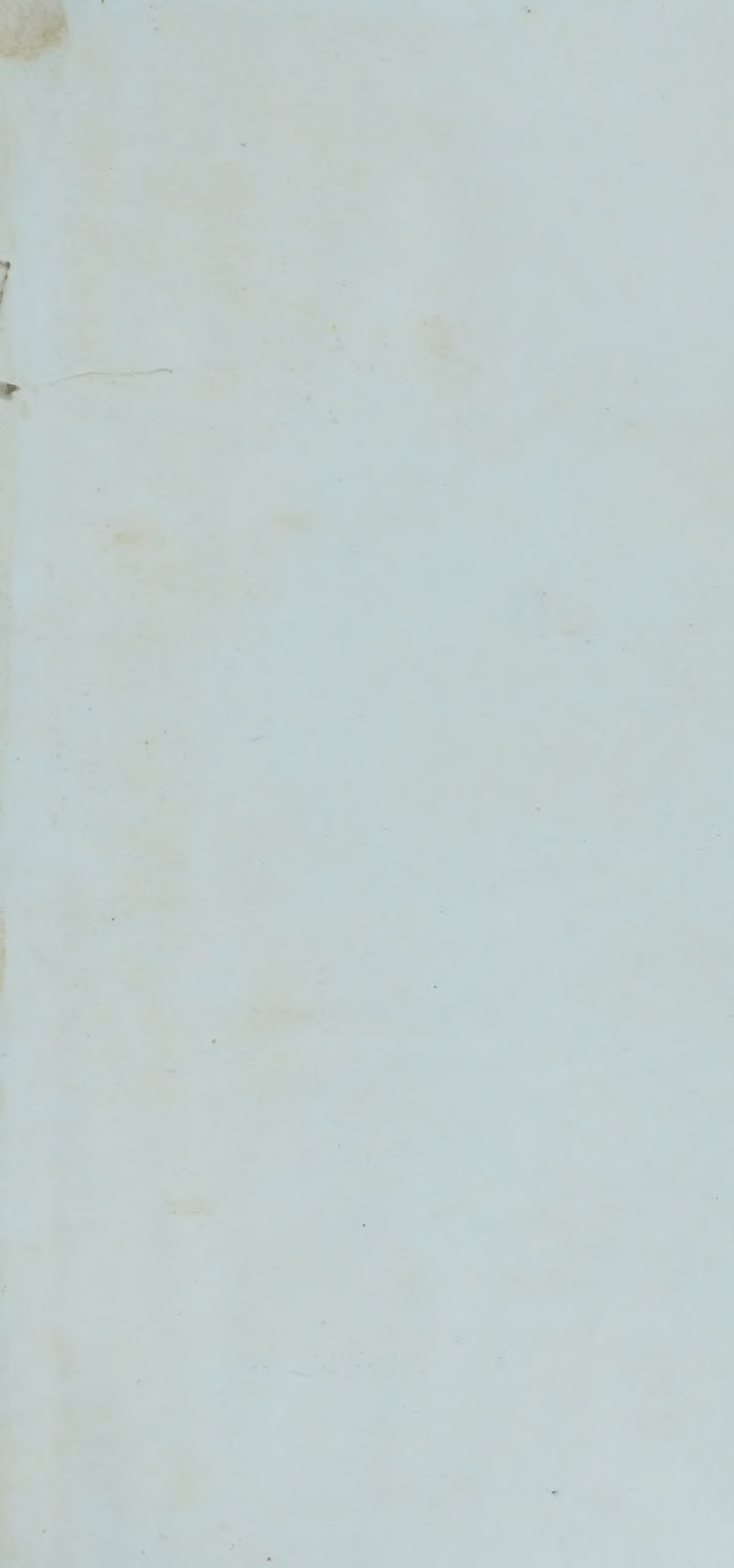
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FLOWERING TREES AND SHRUBS

FOR USE IN SOUTH AFRICA

By T. R. SIM, Pietermaritzburg.

Author of

The Forest Flora of Cape Colony
Forest Flora and Forest Resources of Portuguese East Africa
Ferns of Kaffraria
Ferns of South Africa (2 editions)
Treeplanting in Natal
Handbook of the Bryophyta of South Africa



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INTRODUCTION.

The progress of civilization in South Africa is expressed so very clearly in the extended use of trees and shrubs in the endeavour to render the home and its precincts beautiful, and the country and climate respond so well and under so many different conditions, to endeavours made in that direction, that enthusiasts begin to ask for information as to what kinds may meet their own varying circumstances and give best results, while others who are not enthusiasts feel constrained to follow suit, if only for appearances sake, and knowing little concerning the details of horticulture, promptly find they have to ask for advice or else pay dearly for experience. This has resulted in a constant and ever-increasing stream of correspondence coming into the author's hands, showing in which directions guidance is most necessary and proving that most people desire at least to begin well by laying a sound foundation, in which trees and shrubs, as forming the leading and permanent features of any garden, play the principal part.

It is to meet this demand for information, and to render available what is known concerning the many suitable kinds, and to warn against those which are not suitable, that the present work has been written.

Numerous illustrations have been included, of which the full-page illustrations are life-size or nearly so, and the smaller illustrations reduced to half-diameter of life-size.

The kinds dealt with are mostly those in common use and easily obtainable; many others could have been added as probably suitable, but beginners are advised to use well-tried kinds rather than to experiment, and to keep in mind that what is delightful in some other country may not suit local conditions here.

Probably the best collection of flowering trees and shrubs in South Africa is that grown by H. G. Flanagan, Esq., Prospect Farm, Komgha, who has introduced and tried many novelties; only the limitations of space prevent the inclusion here of his full list together with the success of each kind.

It is trusted that the information given herein will assist those who are laying out new gardens or renovating old ones and the author invites correspondence from those who experience difficulty, or who can highly recommend kinds or methods not mentioned herein.

T. R. SIM.

Maritzburg, November, 1918.

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LANDSCAPE AND GARDEN EFFECTS AND HOW THESE ARE PRODUCED.

Any garden may become what its owner wishes to make it, if he carries out the making practically and systematically. On the other hand the finest garden may be ruined by impracticable or unpractical ideas faithfully carried out, as also it may be ruined by parsimony or neglect.

It is necessary therefore either to possess or to obtain practical ideas corresponding with the purse behind them and to let these control operations. Notable examples exist everywhere of what can be done with the most unpromising material, and are more worthy of study than are the more common cases where all is plain sailing.

Twelve years ago what is now the beautiful garden surrounding the viceregal residence at Brynterion was a solid rock surface with not an inch of soil over the greater part of it.

Ten years ago the beautiful gardens on the Durban beach were tide swept sand dunes, perplexing the municipality as to how they could stop the sanddrift, which starting there threatened to bury the town.

Twenty years ago what is now the beautiful *Jardin Municipal* at Lorenzo Marques consisted of driftsand in the upper portion, and in the lower half malarial swamp which had cost the town many thousands of lives, and earned its bad reputation.

And about the same time what is now the Victoria Park at East London was tangled jungle, the abode of the homeless, into which few other than these dared to explore.

These are but a few out of the many—but they prove that it is not in Johannesburg only that miracles have been worked; and in the Karroo, which is perhaps the most unpromising of all, grand results have been attained wherever water has been used but not abused.

It may be urged that in the cases mentioned above those in charge had the use of government or municipal funds and could consequently do what the private erfholder usually could not afford to do. But the areas they had to deal with were also large, and if a proportionate expenditure were proposed to be incurred on the erfholder's erf of say an eighth of an acre it would frighten few who really wish to produce a good effect.

This is a country of huge horticultural possibilities; the total area is so large, and the unobstructed view is usually so wide,

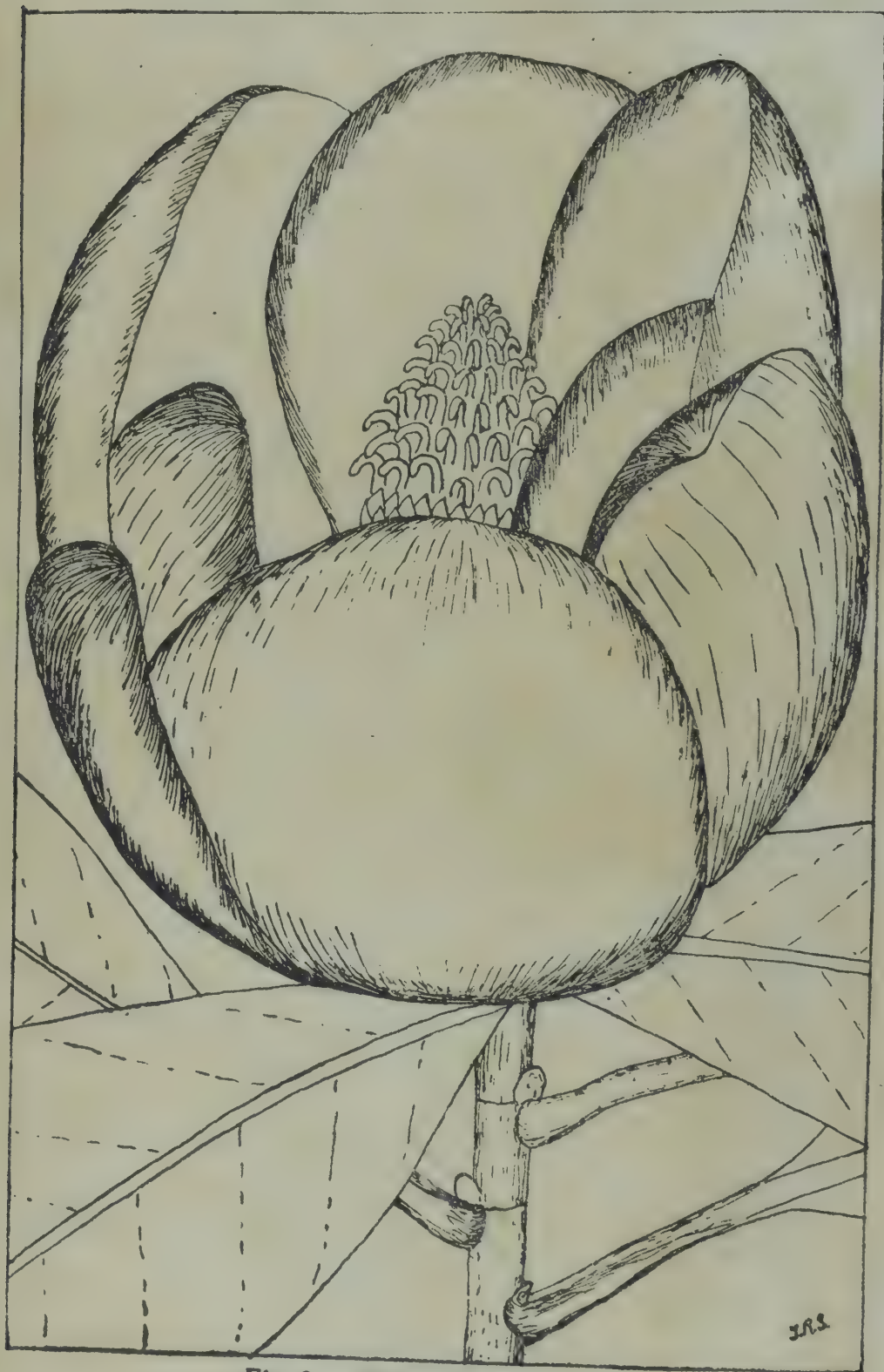


Fig. 2.—*Magnolia grandiflora*.



Fig. 3.—Azalea, single white.

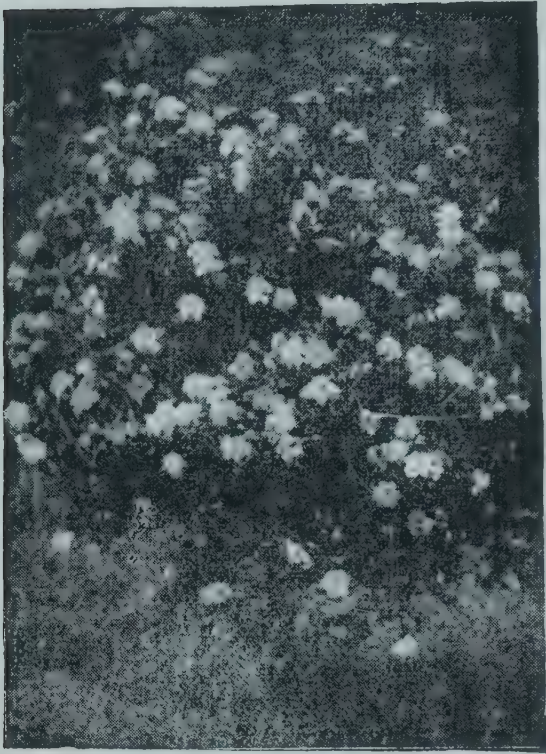


Fig. 4.—Gardenia florida.



Fig. 5.—Macartney Rose.

and the atmosphere so clear, that he who starts to make a garden or park is usually confronted with the difficulty of having to shut out part of the surroundings on purpose to make his own paradise self-contained, except in so far as views, peeps and vistas into the far beyond can be harmoniously worked in.

Trees are nature's first aid in all work of this kind, indispensable wherever curtailment of view is required. They fit harmoniously into every position and in South Africa kinds can be used which grow so rapidly that an effect is produced in two or three years which in England would have taken two or three decades to obtain. The trees are the permanent hardware in almost every garden and it is the proper adjustment and balance of these that constitutes the foundation of landscape art. Too few trees, or too many trees, trees placed so that they hide what is intended to be seen or show what is intended to be hid, are all mistakes frequently made, and unfortunately each mistake takes several years to rectify after that is taken in hand, which too frequently never happens. The moral is that every care should be exercised when laying out a new place, whether large or small, to do so in a manner which will continue satisfactory through all the years to come.

No set standard can be laid down on which to act; every place has its own conditions and its own surroundings, and these vary so much, as also do the tastes of the different owners that it is only by fitting a place into its own conditions and surroundings and in accordance with its own owners taste that satisfactory results can be attained.

In one garden a large area of lawn with only a few specimen trees dotted round its outer margin best meets the case; in another no grass may be required and the whole garden may consist of a fern rockery under trees. In one garden formality may be the controlling feature, in another natural conditions modified but without formality may be highly effective under one owner's control, but give place on a change of ownership to an equally effective design of some other nature. And so the changes may be rung in innumerable directions, each perfection in its own line, or far from perfection, as the case may be.

It thus becomes evident that any site and any soil may be used as a foundation, and that any plant or combination of plants can be used as a superstructure, and that equally effective results can be attained by many different schemes, even upon the same site; and this brings us back to the taste of the owner being the final factor, whether or not that taste meets with public approval. But there are certain general lines on which there exists a consensus of opinion from which few differ.

It is usually desirable to make a garden look larger than it actually is and this is most easily done by hiding the boundaries by tree vegetation of irregular outline, through which peeps are left into more distant views, if such are obtainable.

It is always desirable to hide by trees anything which is not in conformity with the general scheme. It is usually desirable to have a considerable central space either open, or only set with scattered specimen trees. It is desirable to produce colour blends and colour contrasts, sometimes only sufficient to relieve the all pervading green, at other times sufficiently decided to give a pronounced floral character to the scene. These two conditions can sometimes appear in the same garden; sometimes the whole effect is produced by the one or the other, in combination with either formality, regularity, informality, or a state of nature, or a combination of two or more of these

These colour effects are produced in various ways. A series of bright flowerbeds on a well kept lawn pleases everyone; but still there are many who prefer flowers and foliage, of many colours and shades, to appear irregularly throughout the scene, dotted on the trees and shrubs, each kind set in its own greenery and changing in effect from day to day as the season rolls round.

It is particularly as an aid to the planter in producing the effect he desires in this direction that the present work has been written, since anyone knowing the approximate size of any species, each peculiarity in its habit, site requirement, formation, and leaf-colour and its effect and season as a floral colour producer, will be able to place it in such a position and in such surroundings as will best fit its nature, or will best produce the desired result, and he will also know what to avoid as not meeting his conditions.

With many species it is necessary to consider not only the size, foliage and floral effect, but also the appearance of the fruits, and in some also the appearance of the tree when leafless, for deciduous trees bearing a full crop of scarlet berries—as one sees in *Crataegus* (Hawthorn), has a colour effect as striking as many flowers, while autumn tints on leaves, or as the Americans call them “fall colours,” are exceedingly bright on some trees for a few weeks. It is the judicious application of this knowledge which will make a pretty garden and a harmonious scene; it is acting at haphazard without this knowledge—or else not acting at all, which produces the deplorable result sometimes seen.

There may be those who think their gardens too small to require any scheme, but no greater mistake can be made. The small front garden plot, ten feet wide and as long as the width of the house, can be made as delightful a little pleasure spot as the large garden or the larger demesne of the prosperous plutocrat, but it requires at least a proportionately equal share of the owner's attention. The larger villa garden in the same way has its special requirements and special possibilities, but a special chapter will be given to these.

TREES AND SHRUBS FOR A SMALL VILLA GARDEN.

It is a simple matter in a large garden to find a suitable place for specimens of many kinds; but in a small garden the number of kinds must of necessity be restricted and then comes the difficulty of selecting the most suitable. As in a large garden, there may be shown an immense diversity of taste and manner in the laying out even of the smallest garden, and what suits one little plot exactly will not always be in harmony with its surroundings in another; it is well therefore to avoid any recognised commonplace, and to strike out independently, following only the taste of the owner and such natural surroundings as are unavoidable.

But this much might be said, that whether the garden be fully occupied with grass lawn, with black earth, with paths, or with a mixture of these, a few shrubs at least can always be introduced with advantage, and these being permanent should be judiciously selected. For those who have no special knowledge or desire concerning the kinds to be used, I strongly advise to leave out anything concerning which difficulty is experienced and to be content with such kinds as do well with everyone, often in spite of great neglect or abuse.

Among those which take first place in this category are *Philadelphus*, *Deutzia*, Yellow Jasmine, *Hydrangea*, Honeysuckles, *Abelia*, *Cestrum*, *Cydonia japonica*, *Hibiscus syriacus*, Myrtle, Double and Single Cape May, and Scarlet *Grevillea*; all of which are of shrub size and may be kept small if desired, while all are able to enjoy almost any climate in South Africa, except that perhaps the very coldest districts may be too severe for some of them. If rather larger shrubs or small trees can be utilized then *Pride of India*, *Acacia Baileyana*, *Jacaranda*, and *Nerium Oleander* are suitable almost everywhere. Roses of course claim a place in every garden, especially such vigorous and constant flowering kinds as *Maman Cochet*, *White Maman Cochet*, *Abricote*, and other tea kinds, as well as the large white *Frau Karl Druschki*.

Azaleas also deserve a place almost everywhere, except in very dry localities, and can hardly be surpassed as spring flowering beauties.

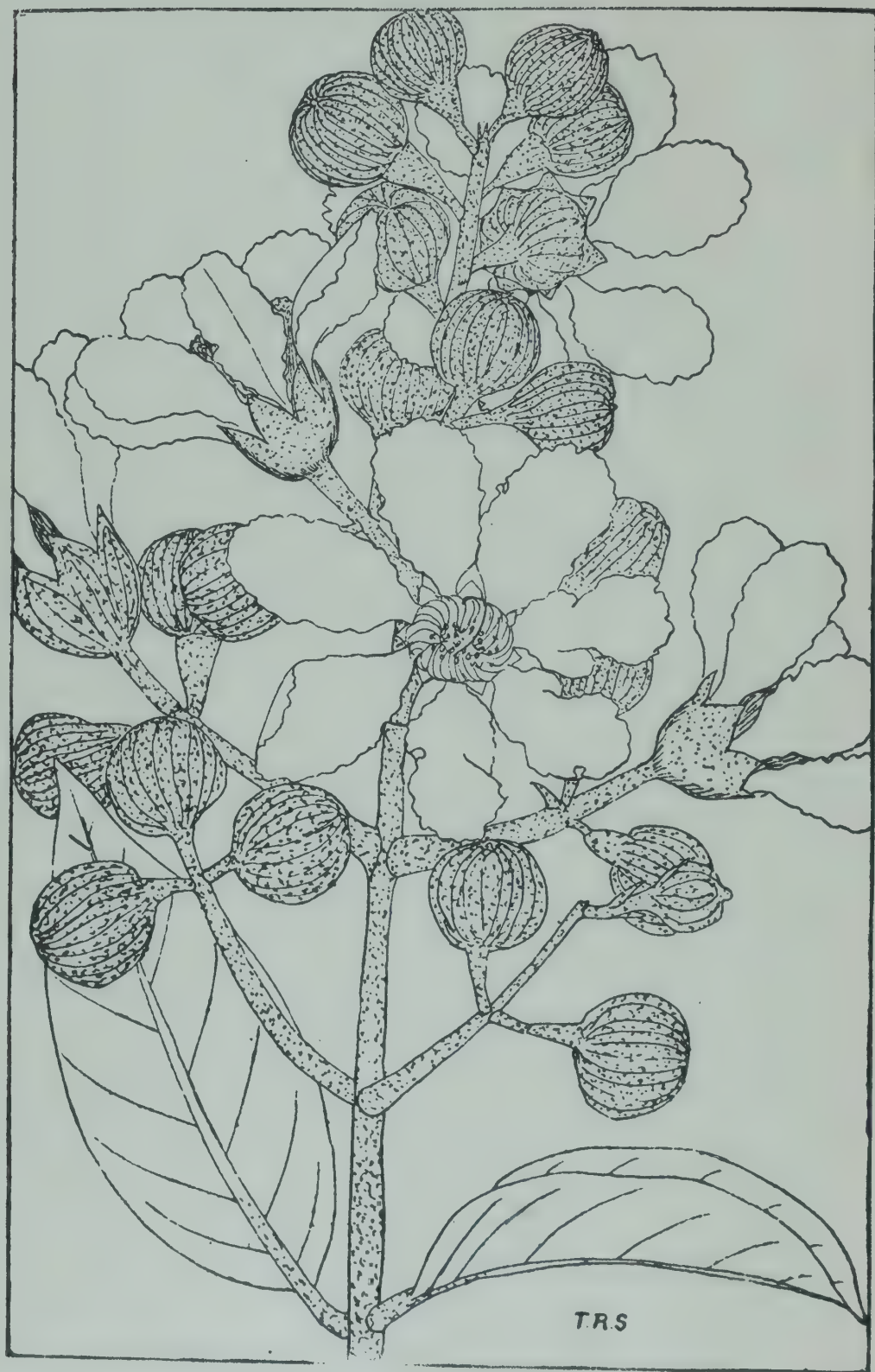


Fig. 6.—*Lagerstroemia reginae*.

For those who desire specialities rather than common and hardy kinds, the whole list is available to select from, and a planter of this nature always knows what his own desire is.

For localities where little frost is experienced the list of common kinds can be considerably extended, and may include *Jasminum sambac*, *J. multipartitum*, *Brunfelsia*, *Hibiscus sinensis*, in its many single and double varieties, *Bauhinia Galpinii*, *Galphimia*, *Abutilon*, in many varieties, *Eugenia australis*, *Leptospermum*, Bottlebrushes, etc., as shrubs, and *Tecoma stans*, *Eugenia jambos*, *Bauhinia purpurea*, *Acacia spectabilis*, *Sterculia acerifolia*, *S. diversifolia*, *Eucalyptus ficifolia*, *A. cultriformis*, and many others as trees, while in localities where frost is absent altogether, *Poinsettia pulcherrima*, *Euphorbia splendens*, *E. jacquiniflora*, *Allamanda nerifolia*, *Cryphostegia*, *Acalypha*, *Carissa*, *Pentas*, *Gardenia*, *Tabernaemontana*, *Fuchsias*, etc., may be used as shrubs, and the Flamboyant (*Poincianna*), *Spathodea*, *Cassia*, etc., as trees, along with any or all of those already mentioned.

It is seldom that there is enough space in a small villa garden to allow of more than one or two trees being used, but where there is space the above list gives some of the most free-flowering and beautiful kinds available.

In some gardens, especially where surrounded with formal architecture, stiff and rigid or succulent plants may be in keeping, such as *Euphorbia grandidens*, *E. tirucalli*, some *Cactus* kinds, some tree *Aloes*, the Screwpine (*Pandanus*), or an *Araucaria*, although it is usually better to have these plants intermixed with others rather than isolated.

In a small garden a few nice shrubs, vigorous, and healthy, placed so that each can show itself to advantage, are usually better than larger trees, or than crowded arrangement, or than the total absence of anything of this kind, and usually common kinds well-grown are much more satisfactory than rare kinds which are frequently out of their element and simply struggling for existence.

For the small city garden, where space is even more restricted than in the villa garden, selection from the lists given above will be found equally useful, selecting in accordance with the climate, and also in accordance with the size of plant suitable for the limited space available. Sometimes even a verandah can be seen with quite a flower-show display, and of many kinds, so no one can say his garden is not big enough to be worth attention.

TREES AND SHRUBS FOR SPECIAL LOCALITIES AND FOR SPECIAL PURPOSES.

In this chapter the kinds best suited for special localities or for special purposes are brought together with the object of allowing the reader to more readily have under his notice what he may require for some place or object. But having got his attention directed in this way to a certain kind he is advised to turn to the later chapter in which the qualifications of that kind are adequately described. For instance the *Amatungula* makes an excellent fence, but its climatic requirement forbids its use in many cold localities

Kinds not mentioned in these lists are not thereby condemned but the ones mentioned are, in most cases the most suitable.

It must be noted also that in the temperature groups the warmer districts have only been credited with such kinds as do better there than in colder districts, but at the same time it should be observed that those kinds which have been mentioned in a colder district list are also safe to use in a warmer district, though not repeated therein in these lists. Those marked * are trees, all others are shrubs or can be trained as such.

TREES AND SHRUBS FOR COLD DISTRICTS.

* <i>Acacia</i> <i>Baileyana</i> ,	<i>Jasminum</i> <i>revolutum</i> .	* <i>Robinia</i> ,
* . . . <i>dealbata</i> ,	Honeysuckle (<i>Lonicera</i>),	<i>Rosa</i> ,
* . . . <i>mollissima</i> ,	<i>Laburnum</i> ,	<i>Sambucus</i> ,
<i>Berberis</i> ,	<i>Mespilus</i> ,	* <i>Schinus</i> ,
* <i>Celtis</i> ,	* <i>Negundo</i> ,	* <i>Sophora</i> ,
<i>Cerassus</i> ,	<i>Persica</i> (Double Peaches),	<i>Spiraea</i> ,
<i>Crataegus</i> ,	<i>Philadelphus</i> ,	<i>Sutherlandia</i> ,
<i>Cydonia</i> ,	Pomegranate,	<i>Swainsonia</i> ,
<i>Dais</i> ,	* <i>Populus</i> ,	<i>Syringa vulgaris</i>
<i>Deutzia</i> ,	* <i>Prunus</i> ,	(English Lilac).
* <i>Gleditschia</i> ,	* <i>Pyrus</i> ,	
<i>Jasminum</i> <i>nudiflorum</i> ,	* <i>Quercus</i> ,	

TREES AND SHRUBS FOR LIGHT-FROST DISTRICTS.

Abelia,	*Duranta,	*Liriodendron,
*Acacia spectabilis,	*Erythrina, many species,	*Melaleuca,
*Acacia cultriformis,	*Eucalyptus ficifolia,	*Melia,
Acacia longifolia,	*Eucalyptus calophylla,	*Michelia,
Azaleas,	*Eucalyptus saligna,	Myrtus,
Bauhinias,	Eugenia, many species,	Nerium,
Bignonias,	Galphimia,	*Olea,
*Brachychitons,	*Grevillea,	*Orange,
Brunfelsias,	Habrothamnus,	*Pavetta,
*Callistemons,	Hibiscus syriacus,	Petraea,
*Calodendron,	Hibiscus schizopetalus,	Phliadelphus,
Camellias,	Hydrangeas,	*Photinia,
*Castanospermum,	*Jacaranda,	*Phytolacca,
*Cedrela,	Jasminum floridum,	*Pittosporum,
Cestrum,	Jasminum sambac,	Plumbago,
Chrysanthemum	and many others,	Pyrostegia,
frutescens,		*Schotia,
Cotoneaster,	Kerria,	Schrebera,
Cytisus,	*Lagerstraema,	*Sterculia,
Daphne,	*Lagunaria,	*Tamarix,
Deutzia,	Lantana,	*Tecoma,
Diervilla,	Leptospermum,	Viburnum,
Diospyros,	Leycesteria,	Wistaria.

TREES AND SHRUBS FOR SUB-TROPICAL DISTRICTS.

Azaleas,	Euphorbia splendens,	Musaenda,
*Bauhinias,	Euphorbia fulgens,	*Myoporum,
Begonias,	Euphorbia	Oncoba,
Bougainvilleas,	pulcherrima,	Panax,
Bouvardias,	*Flamboyant,	*Pauwlowia,
Brugmansia,	Fuchsia,	*Pavia,
Brunfelsias,	Gossypium,	Poinciana,
Cantua dependens,	Heliotropium,	Poinsettia,
Carissa grandiflora,	Hibiscus sinensis	Psidium,
*Cedrela,	varieties,	Rondeletia,
Clerodendron fallax,	Iochroma,	Salvia,
Clusia,	Lasiandra,	*Spathodea,
Codiaeum (Crotons),	*Mangifera,	Tabernaemontana
Cryptostegia,	Medinilla,	Tecoma Stans,
Epacris,	*Milletia,	Thevetia,
*Erythrina (many species)	Murraya,	*Trichilia,
Eugenia (many species),		Wigandia.

TREES AND SHRUBS FOR FOREST LOCALITIES.

Acocanthera,	*Ilex aquifolium (Holly),	
*Aesculus,	Hypericum,	*Podocarpus,
Azaleas,	*Liriodendron,	Reinwardtia,
*Calodendron,	*Magnolia,	Streptosolen,
*Catalpa,	Oxyanthus,	Strophanthus,
Erica,	Peddiea,	*Toddalia,
*Erythrina,	*Platanus,	*Ulmus,
*Gardenia,	Polygala,	*Virgilia.

TREES AND SHRUBS FOR COAST LOCALITIES EXPOSED TO SEA WINDS.

Abutilon,	Cydonia japonica,	Ixora,
Acalypha,	Deutzia,	Ligustrum,
*Adansonia,	Eugenia capensis,	*Persea,
Aloes,	Eleagnus,	Plumiera,
*Arbutus,	Escallonia,	Passerina,
*Brachylaena,	Euonymus,	Sambucus,
Carissa grandiflora,	*Ficus, several species,	Turraea,
*Casuarinas,	*Hibiscus tiliacens,	*Tamarisk,
Caenothus,	Hibiscus sinensis,	*Tarchonanthus.
Cotoneaster,	Hydrangea,	

TREES AND SHRUBS FOR WIND-SWEPT LOCALITIES.

Aloes,	*Eucalyptus	Ligustrum,
*Casuarina,	(many species),	Periskea,
*Cupressus lusitanica,	Greyia,	Rhamnus prinoides,
*Cussonia,	*Halleria,	*Rhapiolepis,

TREES FOR AVENUES.

*Liriodendron (Tulip tree),	*Ficus (several other species	
*Platanus (Plane tree),	*Acer pseudoplatanus	
*Eucalyptus saligna,	(Sycamore),	
*Eucalyptus calophylla,	*Calodendron (Wild chestnut)	
*Eucalyptus	*Aesculus (Horse chestnut),	
(many other species),	*Salix babylonica,	
*Liquidamber,	*Trichilia,	
*Ficus natalensis,	*Poinciana, (for Coast),	
*Ulmus,	*Schinus,	*Betula,
*Acacia Baileyana,	*Jacaranda,	*Quercus,
*Acacia Melanoxylon,	*Aleurites,	*Araucarias.
and such evergreen conifers as:—		
*Cupressus lusitanica,	*Juniperus Bermudiana,	
*Cupressus macrocarpa,	*Cedrus Libani,	} up- country.
*Cupressus horizontalis,	*Cryptomeria japonica,	
*Pinus insignis,	*Podocarpus (Yellowwood)	
*Juniperus virginiana,	for forest locality,	

SHRUBS FOR AVENUES.

Azaleas,	Roses,	Philadelphus.
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TREES AND SHRUBS FOR ROCK-GARDEN.

Aloe natalensis,	Crassula arborescens,	Pelargonium,
*Aloe dichotoma,	Greyia sutherlandi,	Portulacaria,
Aloe, other species,	Leucosidea,	Protea,
Azalea,	Loniceras,	Rhododendron,
Begonias,	Metalisia,	Roses,
Cotyledons,	Panax,	Russellia,
	Veronica.	

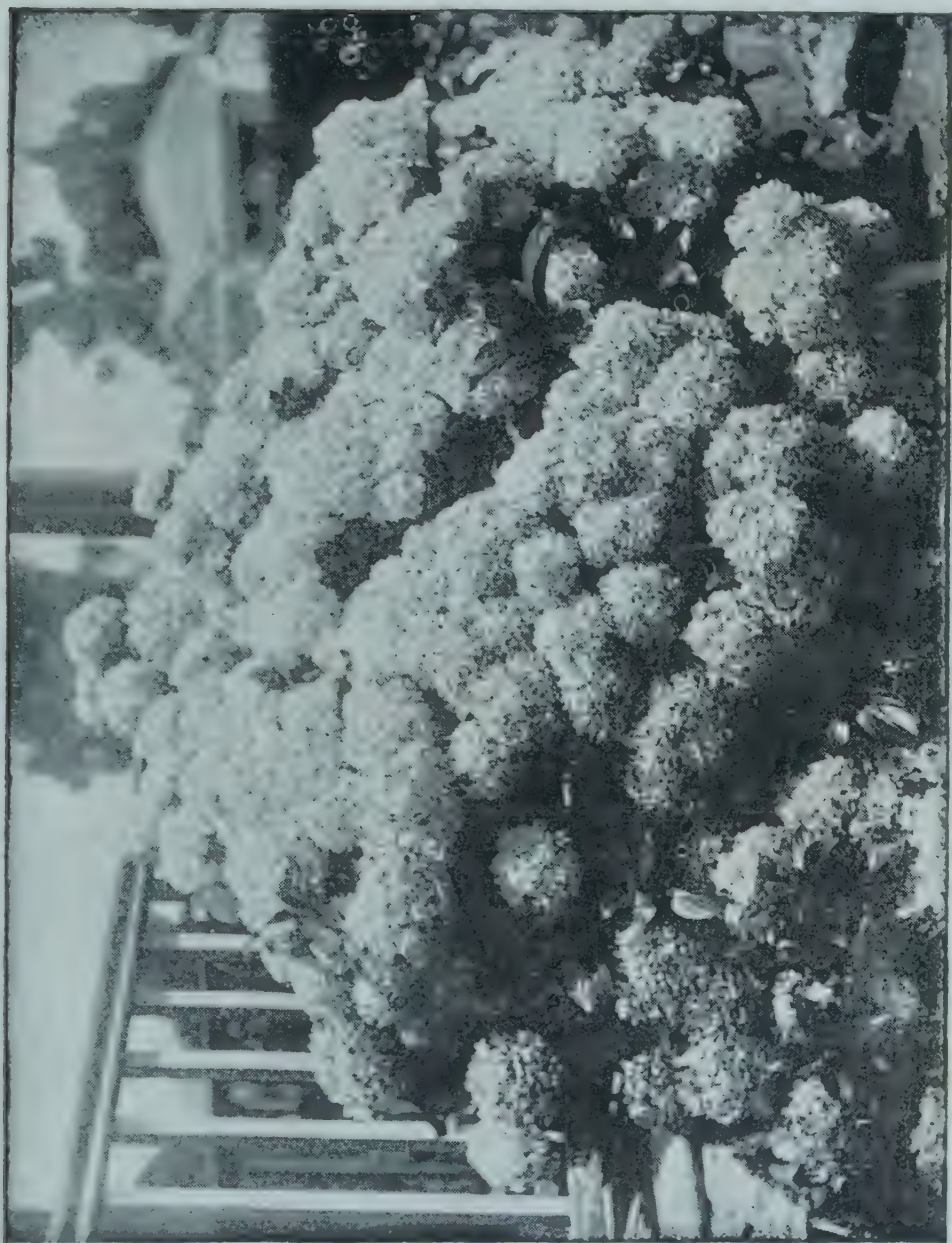


Fig. 7.—*Hydrangea hortensis*.

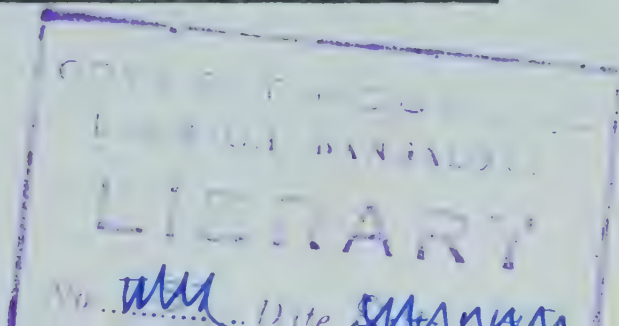




Fig. 8.—*Fatsia papyrifera*.



Fig. 9.—Heliotrope 'The Speaker.'

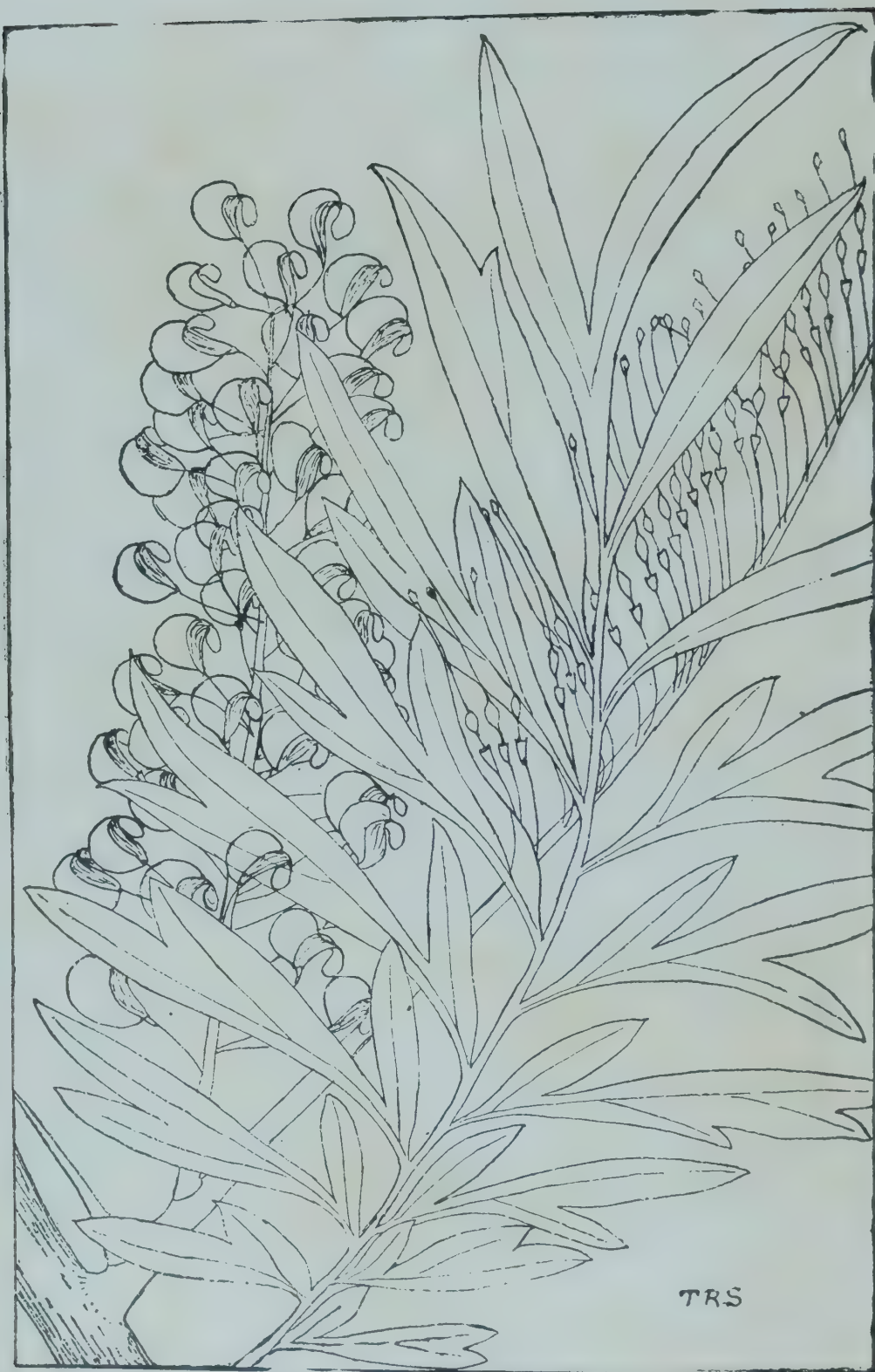


Fig. 10.—*Grevillea robusta*.

TREES AND SHRUBS FOR FOLIAGE EFFECT.

*Acers,	*Prunus pissardi,	Variegated Privets
Aralia,	*Eugenia australis,	(Ligustrum),
Cordylina.	Eugenia eucalyptoides,	Codiaeums,
Acalyphas.	Variegated Elder	Variegated Hydrangea,
*Cussonia,	(Sambucus),	Variegated Nerium,
Panax,	*Purple Beech (Fagus)	Variegated Symphoricarpus
*Wigandia,	Euonymus,	Variegated Honeysuckle,
*Scarlet Oak,		*Sterculia platanifolia.

TREES AND SHRUBS FOR AUTUMN EFFECT.

"FALL COLOURS."

*Acers,	*Negundo,
Berberis vulgaris.	*Quercus rubra,
*Purple Beech (Fagus).	*Quercus coccinea,
Cotoneaster (many species),	*Prunus pissardi,
Golden Elder (Sambucus),	*Fraxinus americana,
*Elms,	*Liriodendron,
*Lagerstraema,	*Diospyros (Persimmon),
*Liquidamber,	*Taxodium distichum.

TREES AND SHRUBS FOR LAKE-SIDE OR RIVER-SIDE LOCALITIES.

*Combretum sps.,	Hydrangeas,	*Salix purpurea,
*Magnolias,	*Ficus sps.,	Leucosidea,
Melianthus,	*Ilex capensis,	*Taxodium,
Osbeckia,	Polivrea,	Gardenia neuberia,
Pleroma,	*Rhus lancea,	*Gardenia Rothmanii,
*Acer sps.,	*Salix babylonica,	*Voacanga Thouarsi.
*Negundo,	*Salix capraea,	

TREES AND SHRUBS FOR USE AS HEDGES.

Nicholson says that practically any tree or shrub may make a good hedge if it has the following qualifications, viz:—

- (1) That it has dense foliage and closely arranged branchlets,
- (2) That it can bear frequent clipping without being materially injured thereby.

The most effective *very rapid* hedge plant is *Eucalyptus Saligna*.

Other good kinds are:—

Cape May (Spiraea)	Amatungula (Carissa),
Single and Double,	Acacia longifolia,
Abelia,	Acacia cyclopis,
Eugenia australis,	Azalea,
Eugenia eucalyptoides,	Gardenia florida,
Privet (Ligustrum),	Barbadoes Gooseberry
Deutzia crenata,	(Pereskea),
Hibiscus syriacus,	Bougainvillea,
Hibiscus sinensis,	Gleditschia,
Roses,	(very thorny rough hedge,)
Portulacaria,	Myrtle.
Euphorbia tirucalli.	
Euphorbia splendens.	
Hakea linearis,	
Cestrum aurantiacum,	
Leptospermum	
(Australian Myrtle).	
Kei Apple (Aberia),	(thorny hedge,)
	Homalum,

or any of the following evergreen conifers:

<i>Cupressus lusitanica</i> ,	<i>Thuja orientalis</i>
<i>Cupressus macrocarpa</i> ,	(Arbor Vitae),
<i>Cupressus lawsoniana</i> ,	<i>Frenela quadrivalvis</i> ,
<i>Cupressus funebris</i> ,	(Oyster Bay Pine),
<i>Juniperus virginiana</i> ,	<i>Callitris robusta</i> ,
	<i>Pinus halepensis</i> , etc.

TREES OF WEEPING OR DROOPING HABIT.

There are few naturally pendant trees but drooping forms of the following and of many others are to be had.

<i>Salix babylonica</i> ,	<i>Ehretia</i> ,
<i>Sophora japonica</i> ,	Cherry (Morell),
<i>Robinia</i> ,	Beech (<i>Fagus</i>),
<i>Ulmus</i> ,	<i>Ficus natalensis</i> .

and such evergreen conifers as:—

<i>Cupressus pendula glauca</i> ,	<i>Cupressus funebris</i> ,
<i>Cupressus lusitanica</i> ,	<i>Sequoia sempervirens</i> , etc.

TREES OF ERECT COMPACT PYRAMIDAL FORM.

Lombardy poplar	<i>Cupressus horizontalis</i> ,
(<i>Populus fastigiata</i>),	<i>Cupressus Lambertiana</i> .
<i>Cupressus pyramidalis</i> ,	Oyster Bay Pine (<i>Frenela</i>).

TREES OR SHRUBS FOR PLANTING IN SHADE.

<i>Cotoneaster</i> ,	<i>Rhododendron</i> ,
<i>Sambucus</i> ,	<i>Hypericum</i> ,
<i>Escallonia</i> ,	<i>Reinwardtia</i> .
<i>Ligustrum</i> ,	

SHRUBS FOR GARDEN-PLOTS.

Azaleas,	Hydrangeas,
Berberis,	Roses,
Cotoneaster,	Lauristinus,
Deutzia,	Veronica,
<i>Viburnum</i> (Guelder Rose),	Tamarix,
Jasmines,	Schrebera,
Privets,	Brunfelsia, etc.
Spiraeas,	

TREES AND SHRUBS FOR DRY LOCALITIES.

Where frost is severe:

<i>Acacia Baileyana</i> ,	<i>Persica</i> (Double Peaches)
<i>Acacia normalis</i> ,	<i>Philadelphus</i> ,
<i>Cydonia japonica</i> ,	Pomegranate,
<i>Deutzia</i> , single and double,	<i>Rhus</i> , several species,
<i>Jasminum revolutum</i> ,	<i>Schinus molle</i> ,
<i>Lonicera</i> (Honeysuckle),	<i>Sophora japonica</i> ,
<i>Spiraea</i> (single and double May),	

Where frost is absent or not severe:

<i>Aloe Bainesii</i> ,	<i>Euphorbia grandidens</i> ,
<i>Aloe Marlothii</i> ,	<i>Euphorbia tirucalli</i> ,
<i>Aloe Natalensis</i> ,	Jacaranda,
<i>Aloe Thraskii</i> ,	Pelargoniums,
<i>Bauhinia Galpini</i> ,	Portulacaria,
<i>Erythrina Humeana</i> ,	Schotia.
<i>Erythrina caffra</i> ,	

PROPAGATION, CULTURE AND CARE OF TREES AND SHRUBS.

The method of propagation varies with the kind, and varies immensely. Some are raised from seed only, others never from seed, but by various kinds of vegetative reproduction.

By Seed.—Any kind which produces fertile seeds may be reproduced from seed, but even among these there are reasons why some kinds should not be increased in this way.

For instance, in all improved varieties or in all kinds producing flowers of various colours, there is always a tendency among seedlings to revert to the original.

In all kinds subject to hybridization one never knows quite what to expect from seed, especially in regard to colour.

In kinds which have originated from sports, such as dwarf, pyramidal, weeping or other fantastic forms, that peculiarity is best retained by vegetative reproduction, and is usually lost in seedlings.

Kinds which produce very small seeds are often difficult to raise from seed, except under very artificial conditions, such as in a greenhouse or glass frame, and cannot therefore be propagated from seed under ordinary garden culture. Many kinds which do produce fertile seeds retain vitality in these seeds for only a short time, and unless the seeds can be sown at once reproduction by other means must be resorted to.

Some kinds which regularly produce fertile seeds have these seeds almost as regularly destroyed by insects or eaten by birds before they are harvested by man, so that other means of reproduction is necessary or at least more satisfactory.

In all the above cases other means are taken to secure reproduction.

The raising of trees even from fertile and uninjured seed is not always simple and easy. Trees and shrubs, being themselves the product of special conditions, are more apt than herbaceous plants to produce seeds requiring special conditions or special treatment to get them to germinate.

Thus almost all hard leguminous seeds, like the *Acacias*, *Robinias*, etc., are produced by trees or shrubs injured by long usage to frequent grass fires sweeping through them, and the seeds have acquired hardness sufficient to resist fire, or rather to require it in order to start germination in them. Such seeds,

if not scorched, require to be soaked in boiling water, left in it till cold or for 24 or 48 hours, and then sown at once if sufficiently softened; if not softened then they require this process to be repeated, or even a few minutes actual boiling included in it.

Many other fairly hard seeds have their germination hastened by being soaked for a day in cold water, and this treatment probably never does damage if they are sown at once afterwards. But any seed softened for sowing suffers if allowed to dry afterwards before it is sown, or if the ground becomes too dry around it.

Some like Chestnut, Horse-chestnut, Pavia, certain Oaks, etc., lose vitality quickly, and require to be sown at once, or else preserved in charcoal or other preservative, which may keep them fit for a few months.

Some oily seeds lose vitality if the oil is allowed to dry out, but retain it if packed in air-tight tins or in oiled paper. Many hard stones, like Hawthorn and Holly, seldom germinate during the first season after being sown and are often lost before they do germinate, and we have still much to learn as to how far acid action, either artificially applied or by the seeds being passed through the stomach of a bird or other animal, will expedite germination in these. Others like Aleurites have the seeds so hard that they germinate best after part of the shell has been filed away, or after vice or other pressure has been used to split them.

Tailed samaras like *Liriodendron*, *Acer* and *Fraxinus* and tailed seeds like pines are apt to be wriggled out of the ground by hygrometric twisting of the tail and germinate best if the tails are removed before sowing.

Woolly seeds like Poplar and Willow, and tailed seeds like Clematis are affected in the same way and in each of these cases it is necessary to remove the hygrometric motion, either by removal of the tail or by fixing the wool in a mud coat.

Acorns and some other seeds rapidly ferment and lose vitality when sacked or stored in quantity in fresh unsweated condition—one day thus placed being sometimes enough to kill them; in some other kinds there is reason to believe that fermentation, if not necessary, at least aids germination.

The depth at which the seed is sown is an important factor, the golden rule being that a seed should not be covered by more depth than its own diameter; thus an Acorn should be covered $\frac{3}{4}$ inch, a Chestnut seed about an inch, an *Erythrina* seed $\frac{1}{4}$ inch, an *Acacia* seed $\frac{1}{8}$ inch, and a *Eucalypt* seed almost no covering, and an *Azalea* seed no covering.

But the kind of covering used is as important as the depth, for if seeds are sown under a surface which cakes and cracks germination will probably never occur, whereas if sown under a fine open medium every seed may germinate. I prefer to use washed river sand for covering all tree seed beds, and find that the difference of germination under the same sand when washed and when unwashed is enormous. Finely pulverised old stable manure is also a good covering for kinds which germinate quickly, but less satisfactory where a longer period elapses.

In the case alike of the sand and of the manure a continuously open surface which is never too wet and never too dry and which stands sunshine and frost without change is much better than a covering of soil of closer consistency. It is because the latter is so often used that the seedsman is so often blamed.

But, as already mentioned there are seeds which are so small that they require no covering. In these cases it is best to give the seed-bed a good coating of sand so as to produce the same surface condition as in the other case, water this well, and then sow at once and the moisture will fix the seeds into any interstices among the sand. Then fix a calico cover or screen horizontally over the seed-bed and about a foot above it, to be removed only while watering. All watering must be done from a can having a fine rose and it is usually necessary to water once a day till long after germination.

In the case of the finest seeds greenhouse treatment in a pot having a glass cover may be necessary, the seed being sown on the surface and never watered, the soil being kept moist by capillary attraction from a saucer of water in which the pot stands. If none of the above methods of sowing give satisfactory results it is advisable either to try vegetative reproduction or to purchase the required plants. The further treatment of seedlings after germination is to protect from undue sunshine or frost till the plants are fit to stand these but at the same time to inure the plants gradually to stand the usual conditions without protection.

Now comes different treatment for different classes of plants. Deciduous trees should be allowed to stand in the seed-bed until they lose their leaves in winter, when they may be transplanted. Evergreen trees should be transplanted when one to two inches high, whatever the season, so as to stop the downward progress of the tap root and produce abundant fibrous lateral roots. If this is not done at that stage it often cannot be done later without killing the tree.

The transplanting may be done into boxes as is usual in nurseries, or it may be direct into the permanent position, but in either case daily watering is required till new roots are formed.

and those in boxes require daily watering so long as they remain in boxes.

Kinds of which seed is not available, or in which, for one or other of the reasons mentioned above it is desirable to use other means than seeds for reproduction, may be increased by one or other of the following means, viz., hardwood cuttings, softwood cuttings, layers, suckers, root cuttings, grafting, or budding.

HARDWOOD CUTTINGS.

Most kinds can with care, and some kinds can with very little care, be increased by planting cuttings of ripened hardwood. These cuttings should be cut with a sharp knife, either straight across or slanting downward, immediately below the junction of a leaf with the stem.

There is usually a bud in the axil of the leaf; and where that is the case, or even where the bud is absent, a new callus of cambium is more easily formed than elsewhere, and roots are produced from this cambium to meet the requirement of the cutting. The cutting should be shaded till roots form; thereafter sunshine usually encourages growth.

A cutting usually has several, sometimes many, axillary buds either developed or latent upon it and requires to have one or more of these, or else a terminal bud, on purpose to secure growth. The terminal bud is sometimes retained, but more frequently the upper part of the branch is cut off, or several cuttings may be secured from successive portions of the same stem. A side branch having a heel or portion of the main stem left attached very seldom fails to grow. The terminal portion, if not fully ripened frequently does fail. If the cutting is to be planted in the open ground a length of eight inches is sufficient, of which six inches should be planted underground, and only two inches left above ground. But if to be planted in sand in a sheltered tin or in a greenhouse, four inches length is sufficient, of which less than one inch should be above ground.

But in all cases there should be a relation between the diameter of a cutting and its length; a very slender cutting can be shorter than a stouter one; also there is no exact rule as to what diameter of cutting to use, for though *Azalea* and similar hardwood cuttings $\frac{1}{8}$ or $\frac{1}{16}$ of an inch in diameter strike freely, there are other kinds like *Willow*, *Poplar*, *Erythrina*, *Catalpa*, etc., in which cuttings 6 to 12 inches in diameter may be used with equal success, but to be proportionate require to be 1 to 2 feet long, and mostly underground.

Some kinds strike freely; other kinds are very difficult to strike, and in most kinds there occur stages in the growth,—usually when leafless or dormant, in which root production is

more easy than at other times. Many kinds, such as *Eucalypts*, *Acacias*, *Eugenias*, *Cedrus*, *Cupressus*, etc., which are often propagated by cuttings under artificial conditions in Europe and elsewhere, seldom strike from cuttings here owing to the absence of these artificial conditions or special arrangements.

Many kinds will begin to produce roots more readily if the lower end is immersed in running water than if planted in earth, but as such rootlets are very brittle the cutting should be planted out as soon as roots show, and if the water be stagnant, the rootlets soon die off. In all cases plant the lower end of the cutting downward, for though some kinds will grow even if inverted, the chances are always against them when in that position.

Cuttings taken from off the lower portion of a tree stem (i.e., side-shoots) strike more easily than branches from the crown; and in many cases trees cut to the ground level yield many shoots which if earthed up somewhat strike with certainty, while ordinary branches of the same kind without that precaution strike with difficulty. In a few kinds, such as *Salix babylonica*, *Populus canescens*, *Erythrina*, *Commiphora*, *Ficus*, *Harpephyllum*, etc., truncheon cuttings six feet or more in length, and six inches or more in diameter, are often planted two feet into the ground as fencing standards, and take root and become permanent fence posts, as durable as iron, because alive.

SOFTWOOD CUTTINGS.

These are cuttings made from the point of the branch or of its side-shoots, and are taken when the shoot is in a young and brittle condition, by making a clean cut just below a node, removing most of the leaves, and then inserting the cutting in wet sand, and exposing to full sunlight. In some kinds roots quickly form; in other kinds there is no prospect of success by this means under ordinary conditions, and the shoot soon withers away. Usually protection against wind and drought are necessary.

LAYERS are formed by bending down some of the lower branches to or rather below the ground level, removing part of the lower surface so as to bring the cambium margins of the cut part into direct contact with the soil, and then fixing the branch so that that contact is permanent, and covering the portion over with soil. Almost all plants having stems can be rooted in this way, and many kinds will root in this way which do not readily root as cuttings, but they seldom make symmetrical bushes or trees, at least for several years.

In some cases it is well to make a cut sloping into the wood upward, and placing a small stone between the stem and the cut

portion, so as to keep the cut open, and allow the callus to develop, covering with soil as detailed above.

SUCKERS are underground stems produced by some kinds, which form roots for themselves, and when removed from the parent become separate trees or plants. English Lilac, Plumbago, *Jasminum sambac*, Raspberry, and many others may be reproduced by this means, but only such kinds as produce suckers naturally.

ROOTCUTTINGS are used with advantage in some cases. Often roots have the power of producing adventitious buds, which under favourable growth conditions of the tree itself never develop, but which under unfavourable conditions of drought, sun-scorch, hail, frost, or other causes rendering the tree bark-bound, develop freely and endeavour to substitute a new stem for the original. Plum, Cherry, Pear, Blackberry, Silver Wattle, *Casuarina suberosa*, *Cydonia*, and many others act in this way. Usually any tree having this character may be encouraged in it by cutting off the roots from the parent tree; each cut root has the ability to produce an independent bud forming a separate tree, and often does so. Thus it happens that Poplars, Blackwoods, Silver Wattle, etc., growing in cultivated land where the roots are frequently cut by the spade or plough produce root-cuttings in abundance, while the same kinds left undisturbed are less productive of them while the parent is healthy. This peculiarity can in some cases be made use of, and in Europe often is so, for the propagation of kinds in which this occurs and in which ordinary branch cuttings are less successful. Thus Hawthorn is often produced in quantity by cutting the roots into pieces an inch long and laying these flat in sand till buds and roots are produced, though the branches of Hawthorn seldom root as cuttings. *Wistaria*, *Lagerstroemia*, and several others may be reproduced in this way, which however is rather of use as a nurseryman's trade-knowledge than as a general means of reproduction.

GRAFTING AND BUDDING are methods by which portions of one kind may be induced to connect themselves with roots of another kind so as to produce an active plant by the combination of the two. In nursery work these means are usually adopted because it is much more easy to raise certain kinds than others; the easily raised kinds are used as the roots (stocks) and the others are connected on to them.

But there may be peculiarities which it is desirable to retain in the root which leads to the use of these methods; thus in Apple trees certain kinds are blightproof, and these are, by Government regulation, required to be the stocks on which other

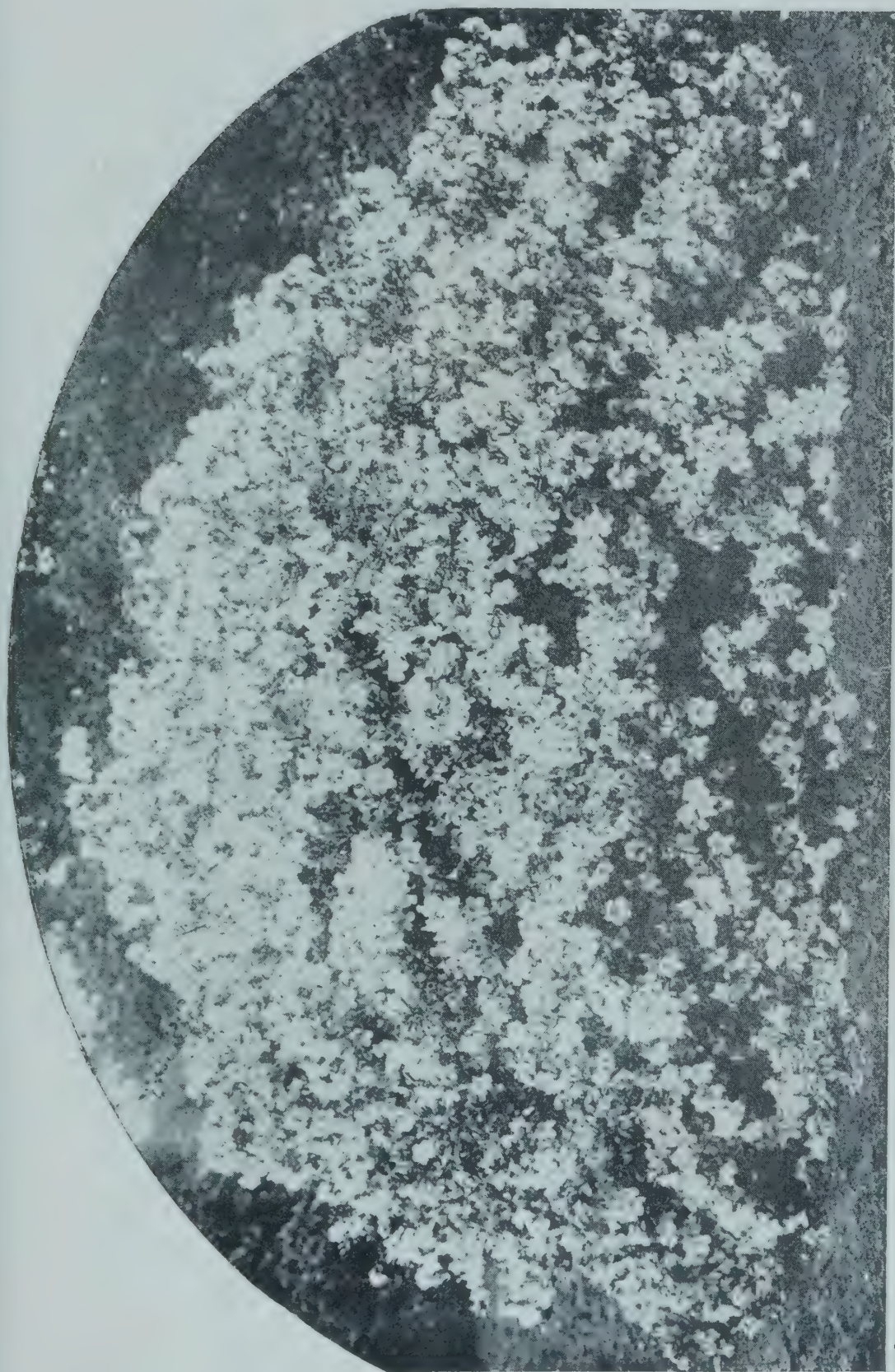




Fig. 13.—*Rhododendrons*.



Fig. 14.—Double White Marguerite.



Fig. 15.—*Crataegus pyracantha*.



Fig. 16.—*Eugenia australis*.

kinds are raised in sale nurseries. Among all fruit trees certain kinds produce more fibrous and consequently more easily transplantable roots than others; the fibrous rooted kinds are generally accepted as the best for stocks. Among variegated and freak forms (pendulous, fastigiate, large leaved, cut leaved, etc.), many cases occur (especially in *Acer*), in which stems of common kinds are grown on to several or many feet height and then budded at the top, giving a vigorous stem but with the desired peculiarity in its foliage and this is also sometimes done with flowering shrubs where a strong stem is desired.

Grafting and budding require certain relationships between the stock and the scion; beyond these relationships success is highly improbable; within these relationships the most unlikely connections may be formed in regard to some species, while others much more likely will not connect, though no reason is known why they should not. Except as an interesting hobby, the practice of budding and grafting may usually with advantage be left to the practical nurseryman, but in some cases where the nurseryman adopts these for economy, as in *Roses*, equal success may be attained with cuttings by those who have time and patience to wait, and who can with equanimity see many of their cuttings fail to root.

PLANTING OUT.

After propagation has been effected, the next thing is to plant out into the permanent positions intended for the trees.

In most cases the best result is obtained from a plant or tree which is planted out when quite small, if due care is bestowed upon the cultivation of the ground round it till it becomes large.

But some planters like ready-made gardens, and prefer to plant full-sized trees, considering life is too short for them to wait development. To meet such cases it is necessary that the plants be grown on, either in the ground or in tins or boxes until they attain the desired size. To this there is little objection, provided a healthy and vigorous condition is maintained all through, and the roots are so fibrous and concentrated that the whole rootmass can be moved without disturbance; but that is essential. For instance, a *Eucalypt* tree a foot high which is still in the seedbed undisturbed has its taproot several feet down while it has few or no fibrous roots on the surface; such a tree has very little chance indeed of being transplanted safely. But if that same tree, when 2 inches high had its taproot cut and was transplanted into a tin or box in which its roots were constantly contained, and from which no rootlets were ever allowed to extend into the underlying soil, then when a foot high (or even when many feet high) it could be transplanted without any danger whatever.



Fig. 17.—*Hibiscus mutabilis*.

The same applies to all kinds, though some are naturally more fibrous rooted than others, and some are more easily injured than others; the main thing, however, is to provide no taproot but abundant fibrous roots for every plant which has ever to be transplanted. On the other hand a tree sown where it is to remain loses nothing but gains a good deal by having its taproot fully developed.

Every tree or plant should be watered immediately after it is planted, even though the ground is wet and though rain is falling at the time. These conditions are favourable, but the plant requires one first watering to settle the soil into position alongside the root, and the sooner that first watering is given, especially on a bright hot day, the more is success assured.

I have seen a field of trees carefully planted on a hot day, all hands being employed on the planting, and then next day all hands were set to water what were already dead trees; whereas if some of these hands had been giving water to each tree immediately it was planted there would have been no failures. A few minutes, especially with small trees and a hot day, are sufficient to kill, unless water is applied. Further watering may or may not ever be required.

It is also necessary to take every precaution against the roots being exposed to sun and wind even for a few minutes. If they are in soil keep them in soil up to the minute of planting; if they are deciduous trees wrapped in moss or leaves, keep them in the wrapping up till the minute of planting, then when planted water at once.

Evergreen trees from soil may be planted at any time of the year, except when active young growth is just pushing; the more dormant the trees are the better will they transplant. Deciduous trees should never be transplanted except when leafless, or with the greatest care during rain from boxes when in leaf. Even roses and other deciduous kinds are more safe from tins than they are from open-root plants; this is because the soil continues to surround the rootlets undisturbed whereas in the other case the rootlets often are exposed for a few minutes, and in any case are disconnected from the soil in which they were formerly contained.

Further care consists in keeping the weeds down and in keeping the ground fresh at all times. A crusted surface can never act satisfactorily, and though in later years trees may keep the weeds down and even provide a humus surface for themselves there is nothing so beneficial during early years as the free and frequent use of the hoe.



Fig. 18.—Mango Trees in Flower.



Fig. 19.—Melia Azadirach.



Fig. 20.—Double White Japanese Cherry.



Fig. 21.—White Abutilon.

DETAILS REGARDING EXOTIC SPECIES.

Abelia floribunda. An evergreen hardy Mexican shrub, 4 to 6 feet in height, of bushy habit and having small dark-green myrtle-like leaves and open terminal panicles of small sweetly-scented white or pinkish-white flowers, produced in profusion throughout the summer. It forms an ornamental open bush if untrimmed, but stands trimming into form, and also makes an excellent hedge. Indeed, since Privet became affected by so many pests, this may be considered the most satisfactory pest-free substitute for that class of hedge. Pruned closely it is as neat as myrtle but without its defects; left a little more open it is as floriferous as Cape May, and continues to be so through the season. It is easily struck from cuttings, and transplants without difficulty if soft young growth is absent at the time, or is removed. (Fig. 22).

Abelia rupestris. A deciduous hairy shrub from China, having small pink flowers in pairs at the end of the branches. It is less common and less useful than *A. floribunda*.

Abutilon (Chinese Lantern). These half-hardy evergreen shrubs 3 to 6 feet in height so common and so pretty under sub-tropical conditions, are mostly garden hybrids of recent origin or seedlings of doubtful parentage. Cuttings strike easily and rapid vigorous growth is produced by humid surroundings, and rich soil gives best results, although drier and more sterile conditions produce more numerous but smaller flowers and smaller leaves. Seedlings usually flower when a few months old, but are seldom of high quality and the selected best are always propagated by cuttings. Abutilons stand a few degrees of frost, but do better where it is absent. *A. Darwini* is the parent, or one of the parents of most of the cordate-leaved varieties; *A. venosum* is a stronger plant, having deeply palmate leaves (as in Duc de Malakoff); *A. megapotanicum* (= *A. vexillarium*) has very pretty small pendant and somewhat fuchsia-like flowers with red sepals, yellow petals and brown stamens.

There are many other species, mostly worth cultivation, although the native African species is not up to that standard. Among the garden hybrids the following colours occur and some of the best out of the many varieties of each are mentioned, viz:—

White:—Boule de Nieve, Purity, etc. (Fig. 21).

Fig. 22.—*Abelia floribunda*.



Fig. 23.—*Acacia spectabilis*.



Fig. 24.—*Acacia cultriformis*.



Fig. 25.—*Acalypha marginata*.

Yellow:—Lemoinei, Canary Bird, Golden Gem, etc.

Orange:—Fleur d'Or, Prince of Orange, etc.

Rose:—Rosaefflorum, Admiration, King of the Roses, etc.

Red and Crimson:—Fire King, Scarlet Gem, Crimson Banner, etc.

Purple:—Louis van Houtte, Violet Queen, Emperor, etc.

Variegated-foliage varieties occur, mostly having yellow blotches irregularly placed; among these are *Thompsoni*, *Darwini tesalatum*, *Sellowianum marmoratum*, and *Vexillarium igneum*, while *Souvenir de Boun* has a pure white marginal band. Double flowered varieties also occur, one of the best being the variegated leaved *A. Thompsoni flora plena variegata*. *Abutilons* form excellent pot plants for verandah or greenhouse use in districts too cold for their growth outside, and few pot plants are more easily grown.

Acacia. The genus *Acacia* includes a very large number of species of evergreen trees and shrubs, and a few climbers; they are mostly natives of Australia and Africa, and almost all have scented yellow or yellowish-white flowers. Most of them seed freely, and are easily grown from the seeds, which however require to be softened by soaking in boiling water before they are sown. Most of them can also be raised by cuttings, but this is seldom done. *Acacia* is the emblem-flower of Australia; the cultivation of *Acacia mollissima* (Black Wattle) is one of the large and important industries of Natal; the Doorn-boom of South Africa is *Acacia horrida*, and many species are worthy of cultivation as flowering trees and shrubs, but as there is a good deal of similarity among them only a few have come into general use as being the best. What is commonly known as the *Acacia* tree in Europe is not an *Acacia*, but *Robinia pseudacacia*. All the *Acacias* are difficult to transplant if once the taproot has developed deeply, which it does very rapidly, but nursery plants are usually safe to plant out, whatever the size, since the taproot is systematically checked in nursery treatment. They form the most pretty trees and shrubs if left to take natural form, unpruned, but can occasionally be improved in form by having large horizontal branches checked or removed. The *Acacias* are mostly hardy, except against extreme frost; they endure drought and soil-poverty to a wonderful degree, but all species respond freely to deep alluvial soil and reasonable moisture, for which cause it is usual in South Africa to see stream valleys marked out in the landscape by vigorous green native *Acacias*, while on the higher and drier ridges adjoining the foliage of the *Acacias* has developed less and the thorns more.

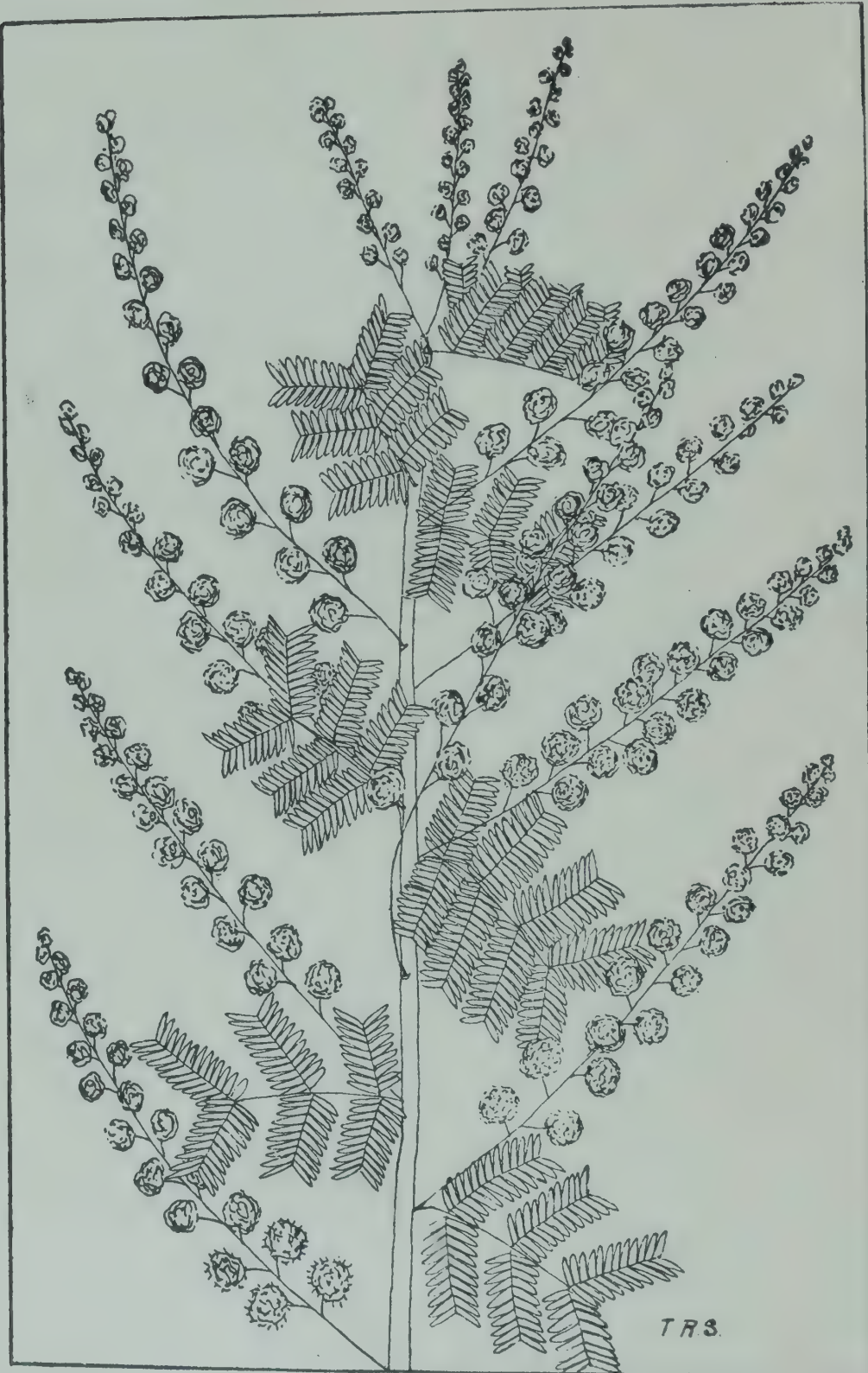


Fig. 26.—*Acacia Baileyana*.

In all the *Acacias* the leaves would be pinnate or bipinnate if fully developed, but in many the leaflets are suppressed and the petiole alone is present, flattened vertically, when it is known as a phyllode.

Among the exotic kinds in cultivation are the following, all from Australia:—

***Acacia armata*.** A spiniferous half-hardy shrub 8 to 10 feet high with ovate oblique phyllodes, and solitary axillary globular flowerheads. Where frost is absent it does well but is subject to various insect pests.

***Acacia Baileyana*.** A small tree, 15 to 25 feet high, branching freely, having 2-pinnate small glaucous leaves which give the tree a distinctly bluish-white appearance, and with the globose heads of golden yellow flowers arranged in axillary racemes, these collectively forming a terminal panicle. It is very floriferous, quite hardy, flowers in spring and seeds at midsummer, and is usually considered the finest of the *Acacias* for garden purposes. It is always raised from seed, and usually planted out when small. It forms a very pretty specimen tree, and should be planted by everyone. (Fig. 26).

***Acacia cultriformis*.** A small tree, 10 to 15 feet high, usually of bushy habit, having glabrous, glaucous phyllodes an inch long, and globose flowerheads arranged in axillary racemes forming a terminal panicle of bright yellow. It is hardy, easily grown, very floriferous, and flowers during summer, and enjoys deep soil, especially if alluvial. Always raised from seed, and it seldom requires pruning. (Fig. 24).

***Acacia dealbata* (Silver Wattle).** A glaucous tree 30 to 50 feet in height, having bi-pinnate leaves, a rounded bushy crown, and a straight stem 10 to 20 inches in diameter, in demand as a mining prop. It flowers freely in early summer, but the flower is lighter coloured and less attractive than that of most of the others mentioned herein, its size, form, and hardy nature, however, make it a useful shelter and ornamental tree in up-country districts where frost affects these others. It suckers considerably and seeds freely, and so becomes naturalised and difficult to eradicate, and in the wattle-bark districts is strictly excluded as occupying ground which is more profitably occupied by Black Wattle. It is only recommended for frosty districts and for colour effect, its glaucous hue blending well with darker trees, but it is monotonous when planted alone in quantity. Even for colour effect *A. Baileyana* is more effective than this, both in flower and foliage; it is equally hardy, and does not sucker, and so can be more highly recommended, except for shelter purposes.

Acacia Farnesiana. A very free-flowering half-hardy tree or shrub, having narrow phyllodes and terminal panicles of globose sweetly-scented flowerheads. It has long been in cultivation in Europe, and though seldom seen in South Africa it does well.

Acacia linearis. A profuse spring flowering large shrub or small tree. Does well at the Mental Hospital, Pretoria.

Acacia longifolia. A large shrub or small tree, of rapid growth, enduring light frosts, producing its flowers in numerous long cylindrical axillary spikes, and having phyllodes $\frac{1}{2}$ inch wide and 3 to 4 inches long. It is short-lived, but makes a pretty and very floriferous tree so long as vigorous. It is often used as a rough hedge, sown *in situ*, and where miles of hedges are wanted it is probably the cheapest fence procurable; it stands trimming well if done regularly and frequently, but it flowers more freely if left untrimmed. It also has as defects in a hedge plant that occasional trees die out, leaving a gap which cannot be filled, and that it is somewhat subject to several kinds of scale-pests which spread to other things. As a healthy specimen tree, however, it is good.

Acacia melanoxylon (Blackwood). A splendid shade tree under favourable conditions, a poor one where conditions are unfavourable. It likes deep soil, never quite dry, and never saturated, and though it lives in many places not answering that description it is seldom happy except in such. It has leaves when young, and only phyllodes after its first year; it is seldom grown for its flowers, although taking all its qualifications it is well worth a place, especially in extensive landscape work. It does best in a moist climate having light frosts, such as forest climate, although even fairly severe frosts seldom hurt it, except in the bleak higher districts where it cannot live. It does not naturally sucker, but if the ground under it be cultivated or the surface roots cut, such cut off roots produce adventitious buds and the general appearance is that of suckering.

Acacia mollissima (Black Wattle). A tree 50 to 60 feet in height, having naturally a round bushy crown of dark-green foliage and in early summer an abundance of golden yellow flowers in terminal panicles of globose heads, heavily scented, which when old have a rather repugnant odour. It is extensively cultivated in Natal for its tan-bark, under conditions of close planting which purposely interfere with its natural habit, and render the trees long and branchless, but no prettier sight can be seen in South Africa, or elsewhere, than a healthy Black Wattle plantation in full flower, except it be a single specimen or a group of a few specimens of this same species having the natural form and equally floriferous. It is too large for a small garden, but just right for a large one, while for farm shelter belts

few trees answer so well. It is easily raised from soaked seeds sown *in situ*, or from transplants whose taproots have been checked; it enjoys localities having a little frost and from 20 to 40 inches of rainfall per annum, but where frosts are severe, or where frosty draughts occur it is apt to suffer. In the upper districts it has the reputation of being more tender than the Silver Wattle but I doubt this, and have observed throughout the high district from Johannesburg to Carolina that where the two are sown together, usually many trees of each perish but a few of each survive, and that when nearing maturity the Black Wattle is the larger and finer tree of these survivors. It enjoys sour mountain-veld, and usual experience is that Black Wattles and Mealies are not both excellent on the same ground, though the Black Wattle lives through many vicissitudes.

Acacia normalis. A tree of the same size and habit as *Acacia mollissima* and usually placed as a variety of that species though for horticultural purposes it is best to keep the two separate, since this is a winter or early-spring flowering kind and is brighter in colour, more floriferous, and deeper green in foliage than the Black Wattle. This is one of the most effective winter flowering trees grown here, and deserves a place in all landscape work, since its flowering season, under reasonably moist conditions, is much earlier than any of the similar *Acacias*. It is reputed to be more hardy than either Silver Wattle or Black Wattle, and, strangely, it does better than these also on the coast. For profitable cultivation its bark product is less and its timber product usually greater than those of the Black Wattle. Apparently the trees of this kind are not self-fertilising but this requires further study.

Acacia Riceana. a tree of 20 to 25 feet height, having linear phyllodes and many flowered terminal panicles consisting of axillary spikes of globose flowerheads. Much cultivated in Europe for the spring-flower market, less frequent in South Africa, where, however, it does well.

Acacia saligna (Australian Willow). A small tree 15 to 20 feet high, having oblique and often curved phyllodes, and in early summer numerous axillary globose flowerheads. It attains its size rapidly and begins to flower when two years old. Short lived, but well worth a place where light or moderate frosts prevail.

Acacia spectabilis. A tree 12 to 20 feet in height, having glaucous phyllodes much like those of *A. cultriformis* but pubescent, and less triangular. Very free-flowering in early summer, the flowers bright yellow, in terminal panicles of globose heads. A half-hardy and very effective tree alike in respect to flower and foliage. It does well in the coast and midlands, but does not endure severe frosts. (Fig. 23).

Acalypha. A large genus of trees, shrubs and herbs, mostly without much show, but several have beautifully variegated leaves together with coloured bracts and scarlet, feathery pistils, the inflorescence being in terminal and axillary spikes. Cuttings strike easily in heat, or in a warm moist place. There are many hybrids; the best known are:—

Acalypha marginata. Margin of leaf rosy-carmine. A shrub 6 to 10 feet high, hardy where frost is absent and often used as a greenhouse decorative plant elsewhere. (Fig. 25).

Acalypha tricolor. Leaves large greenish, but blotched with yellow, red and crimson. Same habit and hardiness as *A. marginata*.

Acer. Deciduous trees or large shrubs; the flowers in some cases highly coloured, in others inconspicuous; the leaves beautifully lacinated and variegated in some forms, and many of the plain-leaved species assume crimson fall colours in autumn. The species are propagated by seed; the coloured and cut forms by budding and grafting. All do best in forest conditions, or where there is moisture during winter and spring.

Acer campestre. Often a shrub with no special qualification, but its variety *variegatum* has the leaves streaked white and yellowish and is well worth growing.

Acer japonicum has purplish flowers and in its many varieties the leaves are variously cut.

Acer negundo.—See *Negundo aceroides*.

Acer palmatum. Leaves deeply palmately divided. It has many varieties, including *atro-purpureum* with leaves dark purple; *sanguineum*, leaves crimson; *rosea-marginatum*, leaves margined with rose-colour.

Acer pictum. Leaves 5-7 lobed. Several varieties variously cut and variegated.

Acer pseudo-platanus. The Sycamore. A large deciduous tree which does well in forest districts here.

Acer rubrum. The Scarlet Maple. This has conspicuous scarlet flowers, and the branches and leaves are also scarlet in autumn. It likes moisture but not stagnant water.

Acer saccharinum. The Sugar Maple. A great favourite in Canada and northern United States, but hardly a success here.

Aesculus hippocastanum. The Horse Chestnut. A large umbrageous deciduous Asiatic tree, common in England, enjoying moist woodlands, little or no frost, and deep loamy soil. It does well in our midland and mountain forests, but is still scarce, as the seeds do not stand oversea transportation, local seed is not yet available and the importation of trees is limited by law. The

flowers are abundant in erect terminal panicles, the petals 5,—white, and the leaves palmately 5-7 leaved; well worth cultivation where it thrives, as also is the next. (Fig. 28).

Aesculus rubicunda. The Scarlet Horse-Chestnut. Closely resembles *A. hippocastanum* in all respects except that the flowers are scarlet, and the petals 4. It is usually increased by budding or grafting upon *A. hippocastanum*; trees of it in South Africa have all been imported; they are few, but very beautiful. It is a North American species.

Ailanthus glandulosa. Tree of Heaven. When young and vigorous this tree has spreading impari-pinnate leaves 2 to 3 feet



Fig. 27.—*Allamanda nerifolia*.



Fig. 28.—*Aesculus hippocastanum*.
(Horse Chestnut).

long; it grows rapidly and gives great promise; when more mature and branched the leaves are less conspicuous but the panicles of fruits which ultimately turn scarlet give the tree pronounced autumn colours. It suckers freely, and has a tendency to become a weed.

Albizia lophantha. A small tree of rapid growth, having very graceful 2-pinnate foliage, and long catkins of yellow Acacia-like flowers abundant in spring. It seeds freely, and is easily grown from these seeds after they are softened by soaking in boiling water.

There are several other species of *Albizzia* in cultivation, one of which is indigenous.

Aleurites triloba. The Candlenut Tree. A large shady tree from tropical Asia and its islands. It requires sub-tropical conditions, and endures no frost, but is a valuable shade tree on the Natal coast. The flowers are small, the nuts large.

Allamanda. Sub-tropical climbers, shrubby climbers, or shrubs, with whorled leaves and beautiful flowers in great profusion. Those which seed freely are propagated by seed, others by cuttings.

Allamanda neriifolia. An erect glabrous bushy shrub 3 to 5 feet high from South America. Flowers bell-shaped deep golden yellow, streaked with orange, two inches diameter, numerous. Seeds freely in a prickly fruit. Endures slight frost but does best where frost is absent. (Fig. 27).

Allamanda Schottii. A climber, more vigorous than *A. neriifolia*, with yellow flowers striped brown in the throat. From Brazil.

Allamanda violacea. A climbing shrub from Brazil with large purple flowers.

Aloysia citriodora. Lemon-scented Verbena (= *Lippia citriodora*). A South American shrub 4 to 6 feet high, having inconspicuous flowers, but nevertheless a great favourite on account of its strongly lemon-scented leaves. Deciduous and hardy, and easily propagated by cuttings of hard wood.

Althaea frutex = *Hibiscus syriacus*.

Amygdalus communis. The Almond. The light rosy-pink flowers of the almond are harbingers of spring. It is one of the earliest flowering trees we have, and yields fruit in addition to its floral beauty. It stands all South African climates except where the soil is too dry, and is usually propagated by budding on the peach. A double-flowered variety is in cultivation in Europe.

Anacardium occidentale. The Cashew Nut. An evergreen medium sized sub-tropical tree of spreading habit and having ornamental dark green foliage. The panicles are terminal, the flowers small but sweetly scented, and the fruit commonly known as the Cashew-nut rests on a thickened succulent peduncle which is usually passed as the fruit itself by casual observers. The tree is frequent throughout Portuguese East Africa, where the natives make an intoxicating beverage from the fermented peduncles. The tree does not stand frost, but does well on the Natal Coast.

Angophora. A genus of evergreen Australian trees, closely related to *Eucalyptus*, the species of which are often taken to belong to that genus. They make excellent shade trees where frost is absent and have rather pretty yellowish-white flowers in abundance. They seed freely and are easily raised from seed. *A.*

lanceolata has lanceolate leaves like those of *Tristania*; *A. cordifolia* has cordate leaves and is a smaller tree.

Aralia. A sub-tropical genus of which many species have striking and graceful foliage which renders them particularly suitable for cultivation as pot plants for table or verandah use, or as outside shrubs where frost is absent. The panicles of flowers are less attractive than the leaves. *A. Vietchii* is popular. Several species formerly included in *Aralia* are now placed in *Fatsia*.

Arbutus unedo. The Strawberry Tree. A large evergreen shrub or small tree, common in Europe but seldom seen in South Africa, where however, it does well in frostless conditions. The racemes of small white flowers, though sweet in their own way, are less attractive than the scarlet fruits which somewhat resemble strawberries,—hence the name. They are not edible, however. Reproduced from seeds. (Fig. 86).

Ardisia crenulata. A small evergreen shrub, 1 to 4 feet high, which flowers freely when quite small and then produces clusters of scarlet berries like those of the English Holly, or rather larger. Flowers and fruit are often present together on table plants only one or two feet high. It stands light frost but does better where frost is absent, and is easily propagated by seed. It comes from the West Indies.

Aucuba japonica. An evergreen Japanese shrub in common cultivation in Europe but seldom seen in South Africa and then usually affected by scale. The berries are more attractive than the flowers but as the male and female flowers are on separate trees I have not seen it in fruit in South Africa. Several variegated forms are in use in Europe, propagated by cuttings.

Azalea. A large genus of most attractive flowering shrubs, so closely related to *Rhododendron* that many botanists include all Azaleas in *Rhododendron*, for horticultural purposes, however, they are best kept separate here. The Azaleas have all very fine fibrous roots, and most of them are surface-rooters. These characters come through the natural habitat which is one where surface roots are never dried off, nor are they ever saturated. This gives the clue to successful cultivation, the requisite condition being moist soil, never soaked, and never too dry. In Europe well-drained peaty soil is usually given but as peaty soil is absent in South Africa light sandy loam in more or less forest climate is what suits them best. Azaleas enjoy being on or alongside or under rocks from which they can draw moisture. They also enjoy well-drained loamy banks or borders, but are easily damaged by continued saturation and seldom do well on clay soil unless modified by special preparations. They like the atmospheric conditions of forestal surroundings and seldom do well where they are exposed to cold bleak winds. In their natural habitats many

of them are more or less covered by snow for months during winter, and are protected thereby. Here it is found that they stand frost, but not cold frosty winds, and that they do best where only light frosts occur. Plants imported from Europe often continue to flower year after year in March, April and May, corresponding with their former flower season, and irrespective of the fact that winter is only beginning then, and that these flowers, unless protected, invariably get destroyed by frost after being one day open. But long-established plants, and especially of some kinds, flower regularly and in grand profusion in the South African spring season, September—October.

Azaleas are not difficult to strike from cuttings of young branches, as also of older wood, but take several years to become bushy flowering plants. Some kinds strike more readily than others and also grow more rapidly afterwards, and in Europe it is common practice to graft the slow kinds on to easily struck rapid growers and thereby infuse greater vigour and more early attainment of flowering size. Little is done in that way in South Africa meantime, but a very large number of varieties, both single and double, have been imported and distributed widely, from which cuttings are struck. In high forest country where mists prevail and rains are frequent every branch put into the ground strikes but elsewhere the process is much more difficult.

Azaleas can be moved easily after they have formed their autumn buds and got into position for flowering in spring, and in places where Azaleas do not continue to thrive, such plants with set buds are the kind to obtain for annual replacement.

The raising of Azaleas from seed is too delicate a process for most people, the seeds being exceedingly small, but in Europe some professional Azalea-growers live by raising Azalea seedlings and others by grafting Azaleas. Azaleas and Rhododendrons hybridise freely throughout both groups, so seedlings may or may not prove like the seed-producing plant.

There are, however, several distinct groups of Azalea of which the following are the principal:—

(1) *A. indica*, Indian, evergreen, with large leaves and flowers, and usually strong vigorous habit. This is the parent or one of the parents of the many kinds of evergreen Azaleas, single and double, in common cultivation, and in which the colours range through purple, crimson, rose, pink, brick, white, streaked and spotted. (Figs. 3, 12, 29 and 30),

(2) *A. sinensis* (= *A. mollis*) Chinese, semi-deciduous, large-leaved, with flowers of yellow shades.

(3) *A. amoena*, Chinese, evergreen, with small leaves and flowers and usually a compact dwarf habit. The colours range through crimson, pink and purple.



Fig. 29.—Azalea, Baron de Kirchove.



Fig. 30.—*Azalea indica*, Single and Double.

(4) Ghent Azaleas, so named from being largely propagated in the neighbourhood of Ghent, though not originally native there. They are all deciduous and, hybridise freely; some have compact habit, others are very lax. The colours are mostly yellow, copper, orange, and red, though they range into white, and also into pink, scarlet and purple, and into streaked colours. There are single and double varieties. These Ghent Azaleas should only be transplanted when leafless or nearly so. They are mostly varieties of the North American species *A. viscosa*, *A. nudiflora*, *A. calendulacea* and *A. speciosa* and of the European *A. pontica*.

Banksia. Australian Proteaceous trees mostly grown for their ornamental evergreen foliage, and still rare in South Africa. Grown from seed; half-hardy.

Bauhinia. Leguminous trees or shrubs, usually almost, but not quite evergreen, and spoken of as Camel's foot trees on account of the 2 lobed leaves. They are deep-rooted, quickly form a deep taproot, and so are difficult to transplant except from tins. For indigenous species see indigenous list.

Bauhinia candicans. A medium-sized tree from Brazil, almost or quite evergreen, according to climatic conditions, flowering very freely from mid-summer till winter, the flowers are large and creamy-white, only lasting one day each and having 5 long lanceolate petals with 2 or 3 staminodes but no anthers, consequently pods are not produced here. It suckers somewhat and reproduction is by that means. Common in Natal, not seen elsewhere; it is a beautiful tree well worth cultivation. It stands light frosts, but not severe frosts. (Fig. 31).

Bauhinia purpurca.—A large shrub or small tree, usually 8 to 12 feet high, and of bushy habit. In mild and moist localities it is evergreen; in dry and cold localities it is deciduous, but it endures frost fairly well. It flowers very profusely in early spring; very few other shrubs except azaleas make so much show at the same season. It begins flowering when quite young, indeed two year old trees frequently flower; as the name indicates the flowers are purple, streaked with lighter shades, and they are very beautiful. This shrub is well worth a place in any garden, and being of comparatively small size it fits a town plot quite as well as a country estate. It seeds freely, and is propagated from the seeds, but if growers wish to raise their own trees they should sow the seeds where they are to remain, as the seedlings rapidly form tap roots and become difficult to transplant. Nursery grown trees in boxes have of course had their tap-roots systematically checked and are fit for planting at any season. It is a native of the East Indies. It requires no pruning, and is better left unpruned. (Fig. 35).

Bauhinia Vahlia is an immense climbing shrub or tree having leaves up to a foot long and wide of the usual 2-lobed form, and many flowered panicles of white or creamy-white flowers an inch across having crisped tomentose petals. It is usually not self supporting, but may have its use as an enormous liane. In India its stems grow to 2 feet diameter, as a forest climber, and felled stems have made coppice shoots 50 feet long in one season. It thrives in Durban and grows from seed. (Fig. 33).

Begonia. This genus is usually regarded as consisting of soft herbaceous plants or tuberous plants, but a good many species are soft-wooded shrubs where conditions allow them to be so. They are easily struck from cuttings, require protection from frost, and shelter from wind or else support. Many Begonias have double-flowered varieties but not among the shrubs. The best shrub species are:—

B. arborescens. Flowers small, white.

B. corallina. Flowers scarlet, rather large.

B. fuchsioides. Flowers scarlet, numerous, small.

B. hookeriana. Flowers white.

B. involucrata. Flowers white.

B. magnifica. Flowers scarlet.

B. maculata. Leaves spotted white, coral red flowers. A white-flowered form is also common in cultivation.

Benthamia fragifera. Shrub or small tree; flowers small, in terminal heads, each sub-tended by four white petal-like bracts. Fruits $\frac{1}{2}$ inch diameter, red. Propagated by seed.

Berberis (including **Mahonia**). Shrubs or shrublets, having flowers yellow, in various shades, usually racemose; some are spinose, others unarmed. They are propagated usually by seeds here, but can also be increased by cuttings, suckers and layers. The following are good species:—

B. aquifolium (*Mahonia aquifolium*). Evergreen, 1 to 3 feet high, with beautiful shining rigid spinose leaves, useful in floral work, and abundant yellow flowers.

B. Darwinii. An erect evergreen bush 4 feet high, with numerous racemose orange flowers.

B. Fortunei. An erect evergreen shrub with long, narrow branches and small lanceolate leaves.

B. stenophylla. An erect evergreen shrub with long narrow branches and small lanceolate leaves.

B. vulgaris. Racemes pendulous, many flowered. Leaves like those of English Holly, having spinose margins.

Bignonia. A genus of climbing shrubs or vigorous climbers, producing beautiful flowers in great abundance at their flowering period. They are rather climbers than shrubs; though they can

Fig. 31.—*Bauhinia candicans*.

Fig. 32.—*Bauhinia Galpini*.

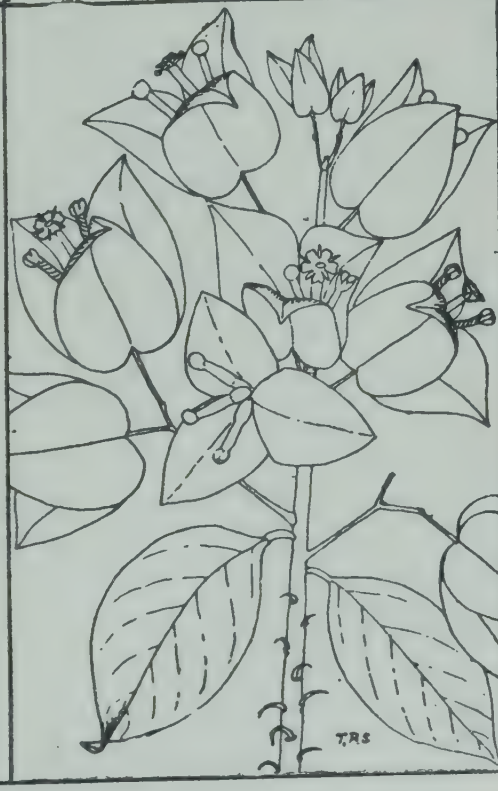
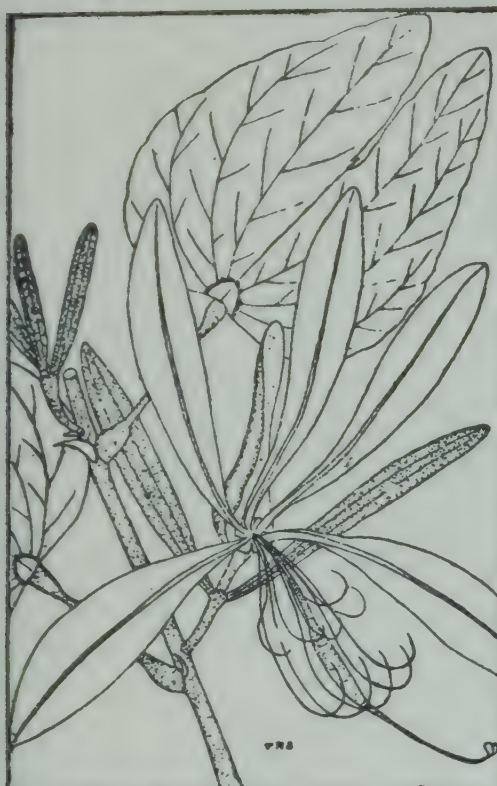


Fig. 33.—*Bauhinia VahlII*.

Fig. 34.—*Bougainvillea*.



Fig. 35.—*Bauhinea purpurea*.

be trained or pruned into shrub form, and are easily propagated by cuttings. Several species formerly included in *Begonia* are now included in *Tecoma*, which see.

B. capreolata. A hardy vigorous species with orange-scarlet flower.

B. magnifica. A climbing shrub from Columbia, producing handsome mauve to rich purplish-crimson flowers. Does well in the Botanic Gardens, Durban.

B. Tweediana. A slender but vigorous climber, self-supporting by tendril-discs, having tuberous roots, and producing festoons of yellow flowers $1\frac{1}{2}$ inches across in early spring. Grows easily from seed.

B. venusta, (= *Pyrostegia venusta* Miers). Golden Shower. A vigorous creeper, often covering roofs of houses and in winter and spring producing the festoons of its tubular orange-scarlet flowers from which it receives its vernacular name. Half-hardy.

Bougainvillea.—Naturally vigorous climbers, and usually grown as such, though they can be kept in bush form by the absence of support, or by pruning, and sometimes also clipped into hedge form in which condition they do well and keep constantly in flower if sufficiently trimmed to prevent vigorous shoots getting up. The flowers are small and yellow, but the beauty of the plant lies in the large floral bracts, which range from purple to brick-red. They have hooked spines on the branches, stand light frosts, but do best in frostless localities, and are propagated by cuttings of old hard-wood, which strike easily in the warm sand of the Natal coast, but with greater difficulty elsewhere. They enjoy full exposure to bright sunshine.

B. glabra.—Bracts magenta; leaves not hairy; panicles not large but abundant.

B. spectiosa.—Bracts lilac-rose, larger than those of *B. glabra*. Leaves hairy.

B. spectabilis (= *B. Braziliensis*) Bracts brick-red. (Fig. 34).

Bouvardia.—Tender evergreen shrubs 2 to 4 feet in height producing in autumn and winter an abundance of bright scarlet, pink, yellow or white flowers arranged in terminal corymbose panicles, and sweetly scented. There are many species, from among which many single and double garden hybrids have arisen some of the best of which are:—Dazzler (scarlet), Hogarth (scarlet), Brilliant (crimson), Alfred Neuner (double white or rosy-white), longiflora flammea (long tube, blush rose), President Garfield (double pink), Queen of Roses (pink), Davidsoni (= *Vreelandii*, pure white), one of the most useful.

All the *Bouvardias* strike easily and some can be propagated by root cuttings. They are excellent garden shrubs wherever frost is absent and for cut flowers few kinds are better. They enjoy rich loamy soil and abundant sunshine. (Fig. 39).



Fig. 36.—*Brugmansia Kinghtii*.

Brachychiton acerifolium.—See *Sterculia*.

Brachychiton diversifolium.—See *Sterculia*.

Brugmansia Knightii.—Formerly known as *Datura*, is the Moonflower, a half hardy shrub 6 to 10 feet high, producing its huge trumpet-shaped pure white flowers in abundance on the young growth. These are strongly scented at night, but less so during the day. Where frost is absent it is more or less evergreen, but where frost is severe the leaves are damaged and the young branches are also cut back but regrowth from below quickly replaces them on the advent of spring. A desirable shrub, easily propagated by cuttings. There are several single and semi-double or double varieties, all white or yellowish-white. (Fig. 36).

Brunfelsia (= *Franciscea*).—Free flowering shrubs 3 to 6 feet high, evergreen where frost is not severe, but deciduous and somewhat tender under hard frost. The individual flowers last for about three days but change colour as they mature and are consequently known to many as "Yesterday, to-day and to-morrow," the flowers, especially of *B. uniflora* being violet when young, light purple on the next day and almost white on the third day. They strike easily and root cuttings may also be struck; they like deep alluvial soil, always moist but not wet. There are several species, all worth cultivation, but among the best are:—

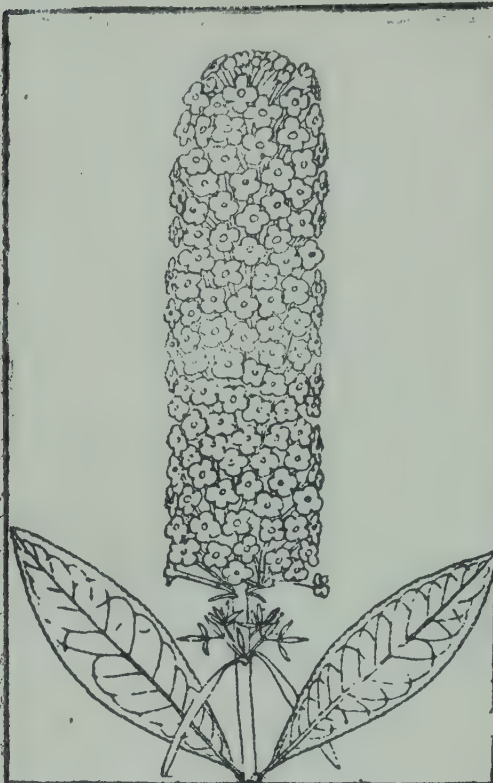
B. americana.—Terminal flowers numerous, axillary flowers solitary, all yellow at first, changing to white.

B. latifolia.—Flowers subcorymbose, lavender with a white eye.

B. magnifica.—Flowers produced in terminal clusters, very large, purple, not changing colour.

B. uniflora.—Very free-flowering; flowers terminal and axillary, at first violet, changing gradually to nearly white. Many flowers open on one day, then none for the next few days, consequently the bush as well as the individual flowers changes colour from day to day. (Fig. 40).

Buddleia veitchiana.—Of the many species of *Buddleia* now in cultivation this is one of the best. It is a shrub of 5 to 8 feet, of rather straggling habit, but stands pruning into shape. It is evergreen, with long leaves, and each branch and side branch ends in a spike of small lilac-violet flowers 6 to 8 inches in length, the spike at first flowering abundantly at the base and tapering to a long narrow point, but ultimately forming a cylindrical spike with flowers open to the point. It enjoys shade, and the flowers are apt to suffer if exposed to intense sunshine. It is usually propagated by cuttings, and endures light frosts, but belongs rather to bush-country than to the open. (Figs. 37 and 38).

Fig. 37.—*Buddleia Veitchiana*.Fig. 38.—*Buddleia Hybrids*.Fig. 39.—*Bouvardia*.Fig. 40.—*Brunfelsia uniflora*.

Butea frondosa.—An evergreen unarmed 3-foliate leguminous Australian tree having many-flowered racemes and scarlet flowers 2 inches long. It does well in the Botanic Garden, Durban, but is not hardy enough for up-country.

Buxus sempervirens.—The English Box-tree. An evergreen shrub or small tree having bright-green shining small leaves and inconspicuous flowers. In Europe it is much used as a path-edge, clipped into size and form. Here it is subject to scale and other pests, except in the most cool forest localities, where it does well, either as a hedge or as a single shrub, or clipped into fantastic form, but it prefers to have lime in the soil.

Caesalpinia.—Leguminous evergreen trees or shrubs, of which there are many tropical and sub-tropical species, all having yellow flowers, in some cases sufficiently showy to warrant cultivation, though they have a tendency to naturalise themselves by self-sowing, which requires control. The pods of some species are used commercially for tannin-production. Several species formerly included in *Caesalpinia* now placed in *Poinciana* (*P. Gilliesii*, *P. pulcherrima*, etc.) are well worth cultivation.

Calliandra Tweedii.—An evergreen leguminous large tender shrub, from Brazil, having 2-pinnate leaves, and showy flowers crowded in heads having numerous conspicuous scarlet filaments. Easily cultivated in the warmer districts and propagated by seeds or by cuttings.

Callicarpa purpurea.—Evergreen half-hardy shrubs having inconspicuous flowers in axillary cymes, but bright glossy deep-violet-coloured berries in profusion which render it worth cultivation. It is raised from seed. There are several other species. (*Verbenaceae*).

Callistemon.—Shrubs or small trees from Australia, usually known as "Bottle-brush trees". They are rather slow growing and have rather rigid formal habit, but flower freely and are well worth cultivation. In Australia they are said to prefer open loamy soil. They are raised from seeds, but as these are small they have to be sown under protection. The kinds usually cultivated are:—

C. linearis.—Shrub 4 to 6 feet, having linear leaves and scarlet flowers.

C. salignus.—Small tree 10 to 15 feet, usually much branched and having straw-coloured, or yellowish flowers and narrow leaves. Known as the "Yellow bottle-bush." (Fig. 45).

C. speciosus.—Shrub or small tree 5 to 10 feet high, having lanceolate leaves and scarlet flowers. A bright and free-flowering garden shrub. (Figs. 11 and 41).

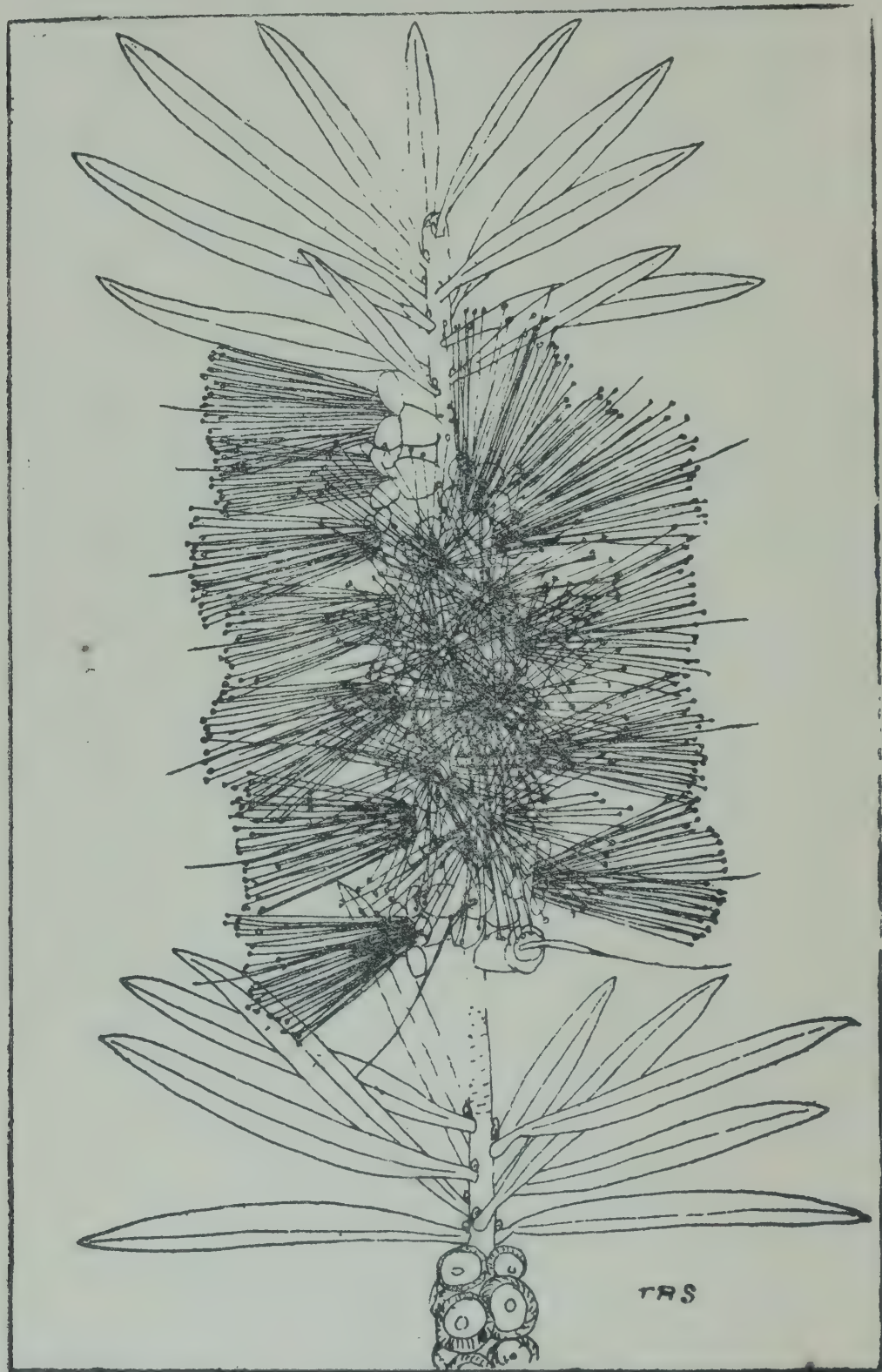


Fig. 41.—*Callistemon speciosus*.

Calycanthus.—Hardy deciduous North American shrubs, the bush itself usually more or less camphor scented, and the flowers in some species sweetly scented. Usually increased by layers.

C. floridus.—A shrub 6 to 8 feet high, with sweetly scented brown flowers and there are several other species with brown or purplish flowers.

Camellia japonica.—The Camellia. Evergreen shrubs or small bushy trees, having highly ornamental glossy foliage and large flowers, well known in fairly mild climates, alike for garden decoration and for cut flowers. There are many varieties, single and double, crimson, red, rose, pink or white, and having either plain or fimbriated petals. They like moist but not wet soil, and do best in forest climate or in sheltered gardens where frost occurs but is not severe. They are not satisfactory under sub-tropical conditions, nor do they endure dry or bleak situations. Soil should be well-drained loam, stiff rather than sandy, and occasional irrigation during winter may be necessary, as flower buds fall off if roots become dry. Flowers usually produced in spring. Single-flowered varieties are propagated by cuttings or sometimes by seeds, and are slow-growing in their earlier stages, often taking several years before they are fit for planting out. Double-flowered varieties grow very slowly if on their own roots, so are usually grafted on to single kinds or on to seedlings. On account of difficulty of propagation and slowness of growth Camellias are usually expensive and even the blooms sell well, though an enormous number is produced on one large tree. The double white varieties are much used for wreath and bouquet-making. (Fig. 46).

Camellia theifera is the Tea-plant, from the branch-tips of which commercial tea is made. It is an evergreen shrub 4 to 6 feet high, with shining green leaves and rather conspicuous white flowers and in frostless districts makes a good ornamental shrub or hedge plant wherever the soil is reasonably rich and not too dry. It endures only very slight frosts and is usually propagated from seeds, which are freely produced.

Campsis, see *Tecoma grandiflora*.

Cantua dependens.—A tender evergreen shrub or straggler, which likes support and does best trained as a creeper. The pale red funnel-shaped flowers are produced in abundance, both in terminal and in axillary corymbs. It is propagated by cuttings and likes rich loamy soil and no frost.

Cargana arborescens.—A rough evergreen half hardy leguminous shrub 5 to 7 feet high, producing yellow flowers in abundance, followed by bladdery pods. It is known as "Bladdersenna," and is a curious rather than an ornamental shrub: easily raised from soaked seeds.

C. frutescens is similar but smaller and more free flowering.

Cassia.—A genus of tropical and sub-tropical leguminous trees and shrubs, mostly evergreen and all bearing yellow flowers, some of which are worth cultivation and others are inclined to become naturalised weeds. All are easily raised from soaked seeds.

C. fistula is a very showy coast tree when in flower.

C. florida is also worth growing on the coast.

Castanea sativa (= *C. vesca*).—The Sweet Chestnut, or Spanish Chestnut. A very beautiful deciduous large tree having large shining leaves, inconspicuous flowers and large prickly burrs containing the well-known edible chestnuts. It likes moist alluvial soil and is a striking landscape tree. It is easily raised from fresh seeds but as seeds do not keep well and are not easily imported alive, it is often raised from coppice-cuttings. There are many varieties, all propagated by cuttings, including one with variegated leaves..

Castanospermum australe.—Australian Chestnut, an evergreen fairly large Australian tree, having dark shining foliage and producing its orange-red leguminous flowers in abundance close to the stem. It is suitable for an avenue tree or for similar position; and eventually becomes 40 to 50 feet high with large round crown. It produces large pods, each containing several seeds not unlike chestnuts, from which young plants are raised. It likes deep moist soil, and only light frosts. (Fig. 122).

Catalpa bignonioides. A hardy deciduous North American tree, worth a place in any garden for its foliage effect, but more so on account of its abundant panicles 6 to 9 inches long which are produced along with the new leaves in spring or early summer; each flower is shaped like a Pentstemon, the five petals much crisped at the margins; colour white, with 2 yellow streaks from the throat to the lip and with abundant purplish dots inside the tube and on the 3 lower petals, usually more or less in lines. Seedlings vary slightly as to colouring but striking colours are easily perpetuated by cuttings. The tree grows here to 20 or 30 feet height; in America it grows larger and is used as a street shade-tree and as a timber-tree. The dry spring months here retard its vigour and often affect it injuriously, but in forest conditions it does well, while in drier and harder conditions it flowers freely but produces less vegetative growth. The flower is very pretty but does not stand as a cut flower except the leaves be removed. (Fig. 130).

Catalpa speciosa from North America, is very similar but has the upper lip longer than the lower. There are several other species of *Catalpa* from China and Japan.

Fig. 42.—*Prunus sinensis*, Fl. pl. Double Flowered Plum.



Fig. 43.—*Cerasus*, Double Flowered Cherry.

Ceanothus (Rhamnaceae).—Several species of ornamental shrubs having simple leaves and small blue or white flowers in terminal panicles. The general habit is good, and some endure sea-winds well. Mostly propagated by seeds and all worth a place.

Cedrela.—Fairly large ornamental evergreen or almost evergreen trees, having rounded spreading crowns and axillary and terminal panicles of small white flowers. The habit is excellent for lawn trees, the pinnate foliage shining dark-green, and though the flowers are not conspicuous there are few prettier trees. Propagated by seeds. It does well where frost is absent or light but is not hardy under hard frosts or bleak cold winds.

C. toona is the Indian Toon-tree; *C. australis* is Australian.

Celtis australis.—A large deciduous European tree producing a distinct light-green effect in early spring when the new foliage is being produced and when the small white flowers are often abundant. An effective landscape tree; endures frost but likes fairly moist soil conditions. Raised from seeds. Very similar to the South African species.

Cerasus.—Hardy shrubs or trees having single or double white flowers, mostly produced in early spring, and in Europe often used for forcing under glass as spring flowering shrubs; most of them are deciduous, but *C. ilicifolius*, *C. lauro-cerasus* (the Laurel) and *C. lusitanica* (the Portugal Laurel) are evergreen. All of them enjoy winter and spring rains, and cool climate, and are limited thereby to suitable localities in South Africa. The Cherry has an edible fruit; some others have poisonous leaves. Seeds require immediate sowing or special treatment to procure germination; the Portugal Laurel, common in Europe, is probably not present in South Africa on this account. Horticultural sports of fruit, flower, or leaf are perpetuated and reproduced by budding. Some can be increased by cuttings. All are scarce in South Africa.

C. avium.—The Bird Cherry, is a free flowering shrub, with small black berry.

C. caproniana.—The Common Cherry, much cultivated for its fruit, has a double flowered variety *multiplex*. (Fig. 43).

C. padus.—The Hagberry, has variegated-leaved forms.

C. semperflorens has a variety *aureo-variegata*.

C. serrulata has a free flowering double variety much used for early spring effect. (Fig. 20).

Ceratonia siliqua.—The Carob-tree, or Locust-bean. An evergreen small tree, having pretty foliage, and of very ornamental appearance where lime is present in the soil; elsewhere often scraggy and unsatisfactory. The flower is not showy but the beans make the tree valuable, being used in special cattle-meals.

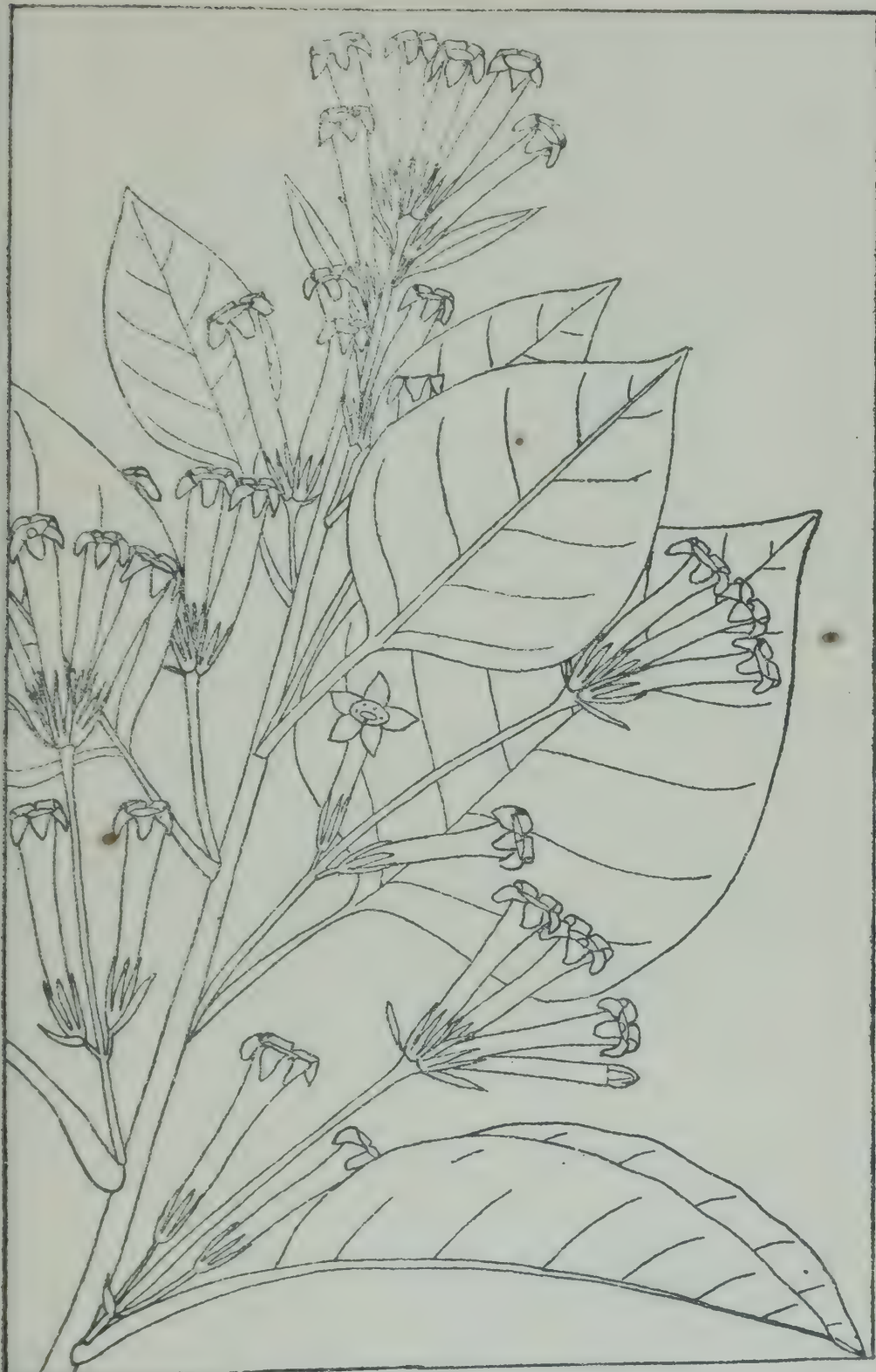


Fig. 44.—*Cestrum aurantiacum*.

Fig. 45.—*Callistemon salignus*.Fig. 46.—*Camellia japonica*.Fig. 47.—*Crataegus oxycantha*.Fig. 48.—*Cestrum elegans*.

for which purpose it is much cultivated in Crete and elsewhere. It is raised from seed, (in Europe prolific forms are grafted); it endures heat and some frost, and likes rocky positions exposed to the sun.

Cercis siliquastrum.—Judas-tree. A shrub or small tree, nearly evergreen, having 2-lobed leaves and purple Leguminous flowers. Raised from seed, and most satisfactory in cool forest localities.

Cestrum (including *Habrothamnus*).—Tender or half-hardy shrubs of vigorous and free flowering habit, but easily affected by frost. May be increased by seed, cuttings, or division.

C. aurantiacum.—Flowers tubular, orange-coloured, sessile, more or less panicled at the ends of the branches. S. American. 4 to 6 feet high, easily naturalised in moist warm localities. (Fig. 44).

C. elegans.—Flowers purplish-red in many shades, numerous produced in dense terminal panicles. It is an evergreen shrub 6 to 8 feet high, and there is a variety with silver-variegation of the leaves. (Fig. 48).

C. Newellii.—Flowers bright crimson in dense terminal clusters; a bright shrub with flowers like those of a large heath.

C. Parqui.—Flowers whitish yellow; very fragrant at night, well known as Inkberry.

C. cyanens.—Flowers tabular, long, deep blue; rough large shrub, free flowering, and of distinct flower colour.

Chestnut, Australian.—See *Castanospermum*.

Chestnut, Horse.—See *Aesculus*.

Chestnut, Spanish.—See *Castanea*.

Chimonanthus fragrans.—A deciduous shrub, the flowers appearing before the leaves; flowers yellow, purplish inside, sweetly scented. Well worth cultivation and easily grown under forest conditions, stands frost. Its variety *grandiflorus* is a great improvement on the original.

Choisya ternata.—A beautiful evergreen shrub, with ternate leaves and white, sweetly scented flowers on axillary simple or branched peduncles at the points of the branches. Tender, and increased by cuttings.

Chrysanthemum frutescens (Marguerite).—A half-hardy shrub 3 to 4 feet high, flowering freely summer and winter in frostless localities and producing dense rounded bushes; the flowers pure white daisies, with yellow centres. Easily increased by cuttings. There are several double and semi-double, and yellow varieties. (Fig. 14).

Cinnamomum camphora.—The Camphor Tree. A half-hardy evergreen tree, having ornamental camphor-scented foliage—rather inconspicuous flowers, and prominent black fruits. It

is the source of the Camphor of commerce, and eventually makes a large tree with valuable furniture timber where conditions are favourable. It likes deep soil and little frost, and is usually increased by seed.

Cistus.—A genus of shrubs, usually small and evergreen, having many species varying much in foliage and flower, but usually the flowers resemble small single roses, and are white, yellow, rose, red, or purple, frequently with a large yellow or purple spot at the base of each petal. Raised from seed or cuttings; half-hardy, enjoying sheltered conditions. Flowers ephemeral, 1 to 1½ inches across. *Cistus* is seldom seen in South Africa but thrives near the forests.

Citrus.—Highly ornamental trees usually grown for their fruits, but equally attractive as garden trees and shrubs, whether in flower or fruit; the flower always white and sweetly scented. *C. trifoliata* is deciduous, the others are evergreen, and all are propagated by seeds, or improved varieties by buds or grafts. *C. aurantium* is the orange; *C. decumana* is the shaddock; *C. limonium* the lemon, and *C. nobilis* the naartje. All enjoy tropical conditions, and endure only light frosts.

Clerodendron.—Trees, shrubs, or climbers, tender and evergreen, mostly raised by cuttings; some by seeds. Some climbers are very effective.

The following are shrubs, all tender:—

C. fallax.—An erect tender shrub having bright scarlet flowers in terminal panicles.

C. foetidum.—Flowers in terminal clusters, rose-coloured.

C. fragrans.—Flowers white, in compact terminal corymbs. The variety 'flora plena' with double flowers is most common.

C. trichotomum.—Calyx red, corolla white.

Clusia.—Evergreen trees and shrubs, suited only to frostless sub-tropical or tropical conditions. Natives of tropical America, but do well in Durban. Propagated by cuttings. The flowers are large and showy; white in *C. alba*, yellow in *C. flava*, and rose-coloured in *C. rosea*.

Coccoloba platyclada.—See *Muehlenbeckia*.

Codiaeum (often mis-named *Croton*).—These are among the most beautiful of variegated-foliage shrubs, but the flowers are inconspicuous, and being quite tropical in requirement they only survive where frost is absent, and tropical or sub-tropical conditions prevail. Increased by cuttings.

Coffea arabica.—The Coffee Tree. Though usually cultivated for its seeds, from which Coffee is made, is quite an ornamental and free-flowering evergreen shrub, well worth a place in any frostless garden, alike for its flowers, its foliage and its fruits. In commercial cultivation it suffers from many troubles, but isolated plants raised from seeds may happen to escape these.

C. stenophylla is a narrow-leaved Zambesian species, equally attractive in flower and fruit, and less subject to disease.

Coprosma.—Half-hardy shrubs, mostly from New Zealand, having ornamental foliage and habit, but small inconspicuous flowers. Increased by cuttings.

C. Baucuriana.—Shrub, 3 to 4 feet high and wide with shining green leaves.

C. Baueriana, variety *picturata*.—Leaves green at the margin, but yellow or white towards the centre, in streaks.

C. Baueriana, variety *variegata*.—Leaves green at the centre with white margin.

Coral-tree.—See *Erythrina*.

Cordyline.—Liliaceous sub-tropical or tropical shrubs, having highly ornamental foliage, and usually rather inconspicuous greenish flowers in panicles, followed by purple fruits. Many of the so-called *Dracaenas* having ornamental and variegated foliage are hybrids or sports from species of *Cordyline*. Easily propagated in heat by suckers and by cuttings. They do not stand frost.

Cornus.—Deciduous shrubs or small trees, varying considerably; some are hardly worth cultivation. They endure frost, but like soil-moisture in spring, and are increased by cuttings.

C. florida has the flowers closely umbellate, small, the umbel surrounded by four large white bracts resembling the petals of a flower.

C. mas has several variegated-leaved forms

Coronilla.—Small evergreen leguminous shrubs seldom seen in South Africa but worth a place. *C. glauca* is much grown as a pot plant for Covent Garden Market, London, producing its yellow flower-clusters in abundance in early spring. The best forms are increased by cuttings; seedlings are often poor.

Correa.—Evergreen Australian tender shrubs, much used in Europe for greenhouse decoration but seldom seen here. Flowers with 4 petals, tubular, white, scarlet or crimson. Some strike by cuttings, others are usually grafted on these.

Cotoneaster.—Hardy evergreen shrubs producing small white or pinkish-white flowers in abundance, followed by crimson or darker berries. Raised from seed or by cuttings. Many species; some straggle over rocks or walls, others are erect, all branch very freely. Among the best are *C. buxifolia*, *C. microphylla*, *C. Simmondsii*, etc.

Crataegus.—Hardy shrubs or trees, deciduous or evergreen, often spiny, having clustered, usually white but sometimes pink or crimson flowers, followed by red, crimson, yellow or purple berries, which are always conspicuous and often remain hanging after the trees are leafless. Propagated by seeds or root cuttings,

or some are usually budded or grafted. There are many species, mostly somewhat alike; the best known are:—

C. coccinea.—Flowers white, berries scarlet; leaves deciduous.

C. oxycantha.—Hawthorn or English May, in its many varieties including double-flowered forms; also forms with variegated leaves. The fruits are usually crimson but sometimes yellow. It is usually deciduous but varies somewhat according to climatic conditions. Hardy against frost, but enjoys moist forest conditions best, together with full exposure. (Fig. 47).

C. pyracantha.—An evergreen spinose shrub; flowers white, rather small, in cymes 2 inches across; fruits abundant, scarlet. (Fig. 15).

Fig. 50.—*Daphne indica*.



Fig. 49.—*Cryptostegia madagascariensis*.

Fig. 51.—*Diervilla rosea*.

Crepe-flower.—See *Lagerstroemia*.

Croton.—See *Codiaeum*.

Cryptostegia.—Climbing tender or half-hardy shrubs which can be kept down as ornamental shrubs, and flower freely when so treated. Increased by cuttings.

C. madagascariensis.—Flowers rosy-white, 3 inches across, on a many flowered 3-inch panicle, the flowers dropping off as they mature. (Fig. 49).



Fig. 52.—*Forsythia suspensa*.



Fig. 53.—*Deutzia crenata*, Single and Double.

C. grandiflora.—Flowers rather larger, reddish-purple.

Currant.—See *Ribes*.

Cydonia.—A genus of trees and shrubs now included under *Pyrus*, but best known in gardens under the above name. Increased by suckers or root-cuttings, or less easily by cuttings. For *C. Maulei*, see *Pyrus*.

C. japonica.—Scarlet Quince. A hardy deciduous shrub 4 to 6 feet high, which produces its bright scarlet flowers in abundance in winter or early spring, mostly while the stems are leafless. It stands frost and drought well, and may be clipped to shape as desired. Under hardship it suckers somewhat but in deep rich soil this is less pronounced. There is a double scarlet variety, and also a white variety, both rare. (Fig. 128).

C. vulgaris is the Quince, a free-flowering and pretty deciduous shrub, but more frequently grown as a rough hedge or for its fruits, than for its flowers. Cuttings strike easily.

Cytisus.—Shrubs, shrublets or trees, hardy or half-hardy, the flowers usually yellow, in many flowered racemes, and the leaves deciduous or evergreen. Increased by seeds, or some kinds or improved varieties grafted or budded, or by cuttings.

C. albus.—A white-flowered shrub 6 to 10 feet high, known as **White Broom**.

C. canariensis.—A yellow-flowered shrub 3 to 6 feet high, much grown in England as a spring-flowering pot shrub for Covent Garden Market.

C. laburnum.—See *Laburnum*.

C. purpureus.—A small shrub with purple flowers.

C. racemosus.—Similar in habit to *C. canariensis*; flowers bright yellow. Grown in quantity for London market.

C. scoparius.—English Broom, or Whin. A hardy free-flowering rough shrub 4 to 6 feet high. Transplants only when young.

Daphne indica.—A hardy evergreen shrub 3 to 4 feet high, having terminal clusters of sweetly-scented white or purplish-red flowers. Increased by cuttings, but usually very slow flowering. A great favourite but not common. There are several other species, all sweetly scented. (Fig. 50).

Datura = *Brugmansea*.

Deutzia crenata. **Bridal Wreath**.—A deciduous or nearly deciduous shrub 5 to 6 feet in height, branching freely from ground-level. The flowers which are pure white or in bright sunshine often tinged pinkish-white are produced in great abundance in young panicles from old wood, early in summer; individually they are $\frac{1}{2}$ to $\frac{3}{4}$ inch wide and long, and usually hanging somewhat, reminding one of snowdrops. This is one of the most free-flowering spring shrubs in cultivation, and as it stands frost and

drought it is a general favourite and fit for use in any garden in South Africa. It is easily propagated by means of cuttings and consequently is seldom grown from seed. It is often pruned into shape, and stands that well, flowering as profusely but more compactly than if left unpruned.

The double-flowered variety, *D. crenata*, *flora-plena*, has all the good qualities of the single form, but has each flower full-double; it is consequently different in appearance from the single form, but both are well worthy of cultivation. *D. crenata* is a native of the Himalayas. (Fig. 53).

There are several other species of *Deutzia*, all white and all from Eastern Asia. One of the most beautiful little shrublets in cultivation is *Deutzia gracilis*, a very free-flowering spring-blooming plant 2 to 3 feet high, with pure white flowers. It is quite hardy, but does not enjoy drought, and in England it is grown in quantity for sale as a pot plant when in flower in Covent Garden, where it is quite a feature of the spring market.

Diervilla (= *Weigelia*).—Hardy deciduous shrubs 4 to 6 feet high, having white, pink, purple or yellow flowers in axillary and terminal clusters. Increased by hardwood cuttings.

D. grandiflora is from Japan and has pink, white, rose, and blotched varieties, and also one with prettily variegated leaves.

D. hortensis is white, red, or dark-red.

D. floribunda has numerous purplish flowers.

D. rosea, of which there are rose and white varieties, is a native of China. (Fig. 51).

Diospyros virginiana is a small deciduous tree and deserves a place in any large garden, but less for its flowers than for the bright red autumn tints assumed by its leaves.

Duranta.—Free-flowering hardy shrubs or small trees, 10 to 20 feet in height, usually evergreen, though sometimes deciduous under severe drought or hard frost. Flowers abundantly produced throughout the summer, followed by racemes of bright yellow berries which hang into or through the winter. Suitable for every garden except in the coldest and driest localities. They stand severe pruning and come more vigorously after it. Usually raised from seeds, but the finer strains are propagated by cuttings.

D. Ellisii alba.—Flowers pure white, an excellent, almost perpetual-flowering large shrub. Very effective.

D. Plumieri.—Flowers blue, often known as Tree Forget-me-not. (Fig. 54).

Elaeocarpus.—Handsome evergreen half-hardy shrubs or trees producing in abundance small fragrant white or nearly white flowers in racemes. Raised from seeds.

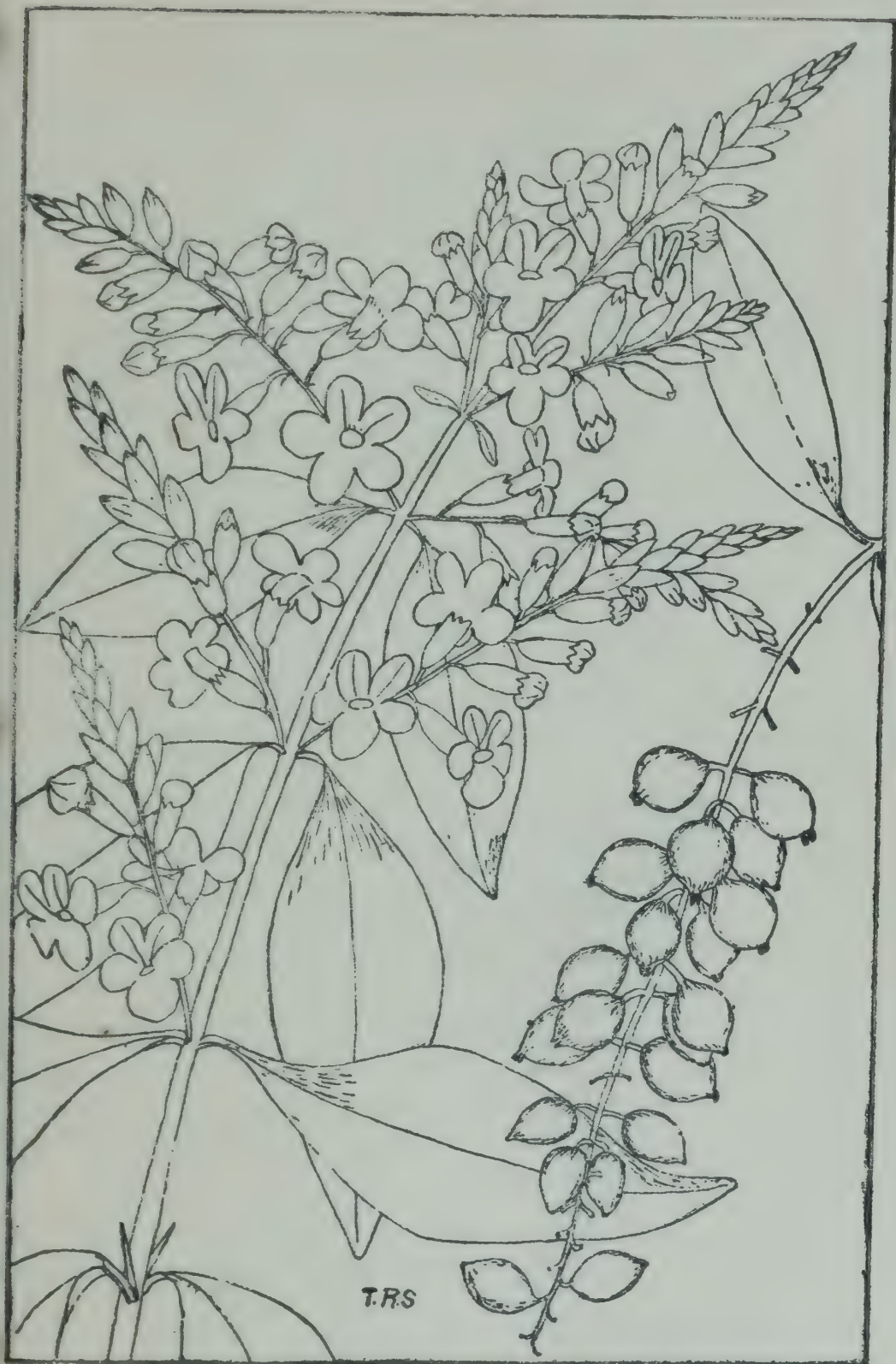


Fig. 54.—*Duranta plumieri*.

E. cyaneus is a beautiful Australian tree and there are several others also worth cultivation, but seldom seen here.

Eleagnus.—Ornamental shrubs or small trees, some deciduous, some evergreen, with axillary white, yellow or orange sweet-scented flowers. Propagated by seed or cuttings. Hardy or half-hardy; some stand coast winds well. Leaves silvery in some species and the coloured berries usually conspicuous. Several species, all rare here.

Epacris.—Beautiful and free-flowering heath-like shrubs or shrublets from Australia and New Zealand, much used for greenhouse culture in Europe but seldom seen here. There are many species, ranging from 2 to 4 ft. height, producing numerous axillary flowers in leafy terminal spikes. Flowers white, pink, red or purple, single or double, well worth growing and requiring same conditions as heaths. Propagation by cuttings, difficult except to experts.

Eriodendron anfractuosum 'Kapok.'—A large evergreen Sterculiaceous sub-tropical tree, from the East Indies; of striking and graceful habit with large palmate leaves, the scarlet flowers produced in abundance, followed by large woody capsules in which the seeds are embedded in silky fibres, used in commerce for cushions, etc., under the name Kapok. Easily raised from seeds and does well where frost is absent, especially in the humid coast localities. Illustrated in *Forest Flora* of Portuguese East Africa, Plate XIII.

Eriostemon.—Australian evergreen shrubs, producing numerous axillary white, pale pink, red or lilac flowers, and long narrow leaves. Usually one to four feet high and well worth cultivation. They stand moderate frost and are increased by seeds or cuttings. There are many species.

Erythrina.—Trees and shrubs, of which the Kaffir-tree is a well-known example. Usually raised from seeds, though stump-cuttings strike. Most species are sub-tropical or endure only slight frosts and most are deciduous except under particularly favourable conditions. Flowers usually scarlet and very bright, often produced before the leaves; pink or white forms occur in some species. Besides the indigenous species described later the following are the more common out of many useful species:—

E. corallodendron. Coral tree.—Has a large underground crown and root, it is often more or less cut down in winter, producing a vivid show of flowers before the leaves. Woody stems, sometimes a few feet high; annual shoots 10 to 12 feet high.

E. crista galli.—Stem woody but often hardly rising above ground, whence annual herbaceous flowering stems rise with terminal racemes of scarlet or orange flowers. Height of woody stem varies with climate. (Fig. 55).

Fig. 55.—*Erythrina crista-galli*.

Fig. 56.—*Erythrina Humeana*.

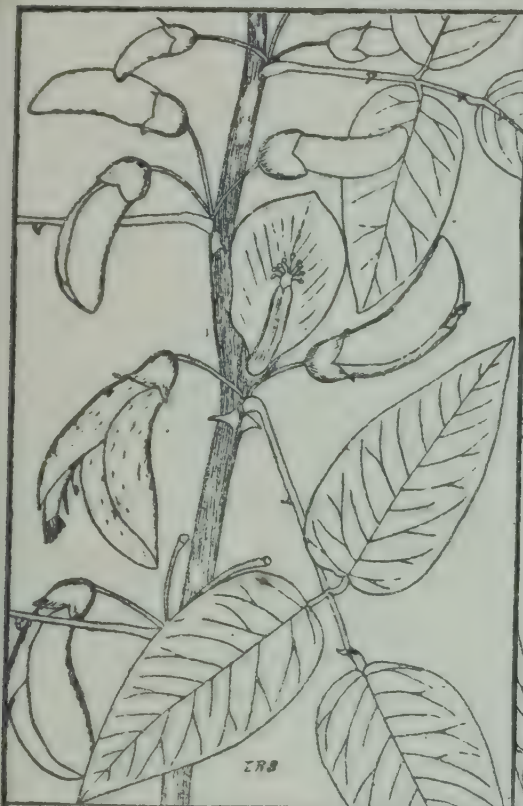


Fig. 57.—*Eugenia eucalyptoides*.

Fig. 58.—*Eugenia jambos*.

E. indica.—A tree 20 to 30 feet high having bright scarlet flowers, and there is also a white-flowered variety, as well as variegated leaved forms in cultivation in Europe under the names *marmorata* and *Parcellii*.

E. Livingstoniana.—One of the largest and most gorgeous trees of the tropical and sub-tropical African forests; it produces an immense soft-wooded stem, and rounded crown, huge leaves, and great abundance of deep scarlet flowers. Well worth cultivation in sub-tropical localities. Illustrated in *Forest Flora of Portuguese East Africa*, Plate 48.

Escallonia.—Evergreen South American shrubs, fairly hardy, with flowers in terminal panicles or racemes. Increased by cuttings, or by seeds. Many species mostly 4 to 8 feet high.

E. floribunda.—Flowers white, corymbs terminal, rather paniced, much branched, leafy.

E. macrantha.—Flowers crimson-red, rather large; inflorescence racemose, lower peduncles axillary.

Eucalyptus.—An Australian genus of evergreen trees and shrubs, varying from 4 to 400 feet in height, and from tender to hardy, some of which have very showy flowers, usually in terminal or axillary corymbs or panicles. Grown from seed only, consequently the different colours cannot be reproduced with certainty, though they usually follow near that of the parent. From among the many species the following best suit garden purposes:—

E. calophylla.—Medium-sized half-hardy tree with large white flowers, useful as a street tree where frost is almost absent.

E. citriodora.—Lemon-scented gum. A tall timber tree, having eventually a straight white bole with few branches. The flowers are not attractive but the sweetly scented foliage makes it worth a place where frost is absent.

E. ficifolia.—The scarlet- or crimson-flowered gum. One of the most gorgeous flowering trees in existence, usually 15 to 20 feet high with attractive foliage and huge terminal corymbs of large flowers, which vary in colour on different trees from crimson, scarlet, red and pink to almost white. Endures only slight frost. (Fig. 59).

E. coccifera.—A small tree with small purple flowers 4 to 8 in an umbel.

E. salmoniphloia.—A fairly large half-hardy tree producing conspicuous yellow flowers in abundance.

E. sideroxylon.—A hardy tree of which a scarlet flowered variety is a favourite in localities too cold for *E. ficifolia*.

E. saligna.—A hardy gum, growing to large size. The flowers are small and white but the foliage and habit are excellent and commend it as a quick-growing shade tree in all except the coldest localities. Also good as a hedge-tree.



Fig. 59.—*Euc. ficifolia*.

Eugenia.—A large genus of evergreen half-hardy trees and shrubs with shining opposite leaves and abundant flowers mostly conspicuous by their numerous white filaments. Some have edible scarlet or purplish-blue fruits. All are most easily raised by seeds. Some make excellent hedge plants. Besides the indigenous kinds the following are frequent in cultivation:—

E. australis (= *E. myrtifolia*).—A shrub or small tree of dense habit seldom exceeding 10 feet in height, flowering profusely and making a highly ornamental single specimen and equally good as a hedge having a pink tinge on the young growth. It endures light frosts but does better where frost is absent. Its purplish fruits are made into jam. (Fig. 16).

E. brasiliensis (Brazilian Cherry).—A small shrub bearing a bright scarlet cherry, which makes an excellent hedge 2 to 8 feet high, or it may be grown on as separate shrubs to 6 or 8 feet. More or less evergreen according to conditions, but always bright pink on the young growth after clipping. Does best on the Natal coast and does not stand frost.

E. eucalyptoides (Mimi).—A tree 20 feet high with shining dark-green leaves; one of the most ornamental garden trees, and also makes an excellent vigorous hedge, on which the young growth has a pink blue. Fruits white. Only half hardy. (Fig. 57).

E. jambos (Rose Apple).—A vigorous large-leaved species making a small but ornamental tree and producing in abundance its large flowers—the stamens being 2 inches long. It does not stand frost. (Fig. 58).

E. jambolana.—A small tree which flowers freely and produces fruits edible by children.

Euonymus.—Shrubs with shining dark green or variegated leaves, much in use in Europe as specimen or hedge shrubs, but so subject to scale-insects here that they are less satisfactory. All are raised from cuttings and require constant spraying to be successful.

E. japonicus is the smaller, and has a golden variegated form.

E. latifolius has larger and wider leaves, and there is a form with a silvery-white variegation.

Euphorbia.—A large genus having immense variety of form and size; many are grotesque succulent trees or shrubs and all have poisonous milky juice. The flowers are usually un conspicuous but sometimes surrounded by brightly-coloured floral bracts which are popularly mistaken for flowers. Some are tropical and tender, others endure slight frosts. Usually propagated by cuttings of ripe wood. Besides indigenous species the following occur in frostless gardens.

Fig. 60.—*Euphorbia splendens*.

Fig. 61.—*Jasminum revolutum*.

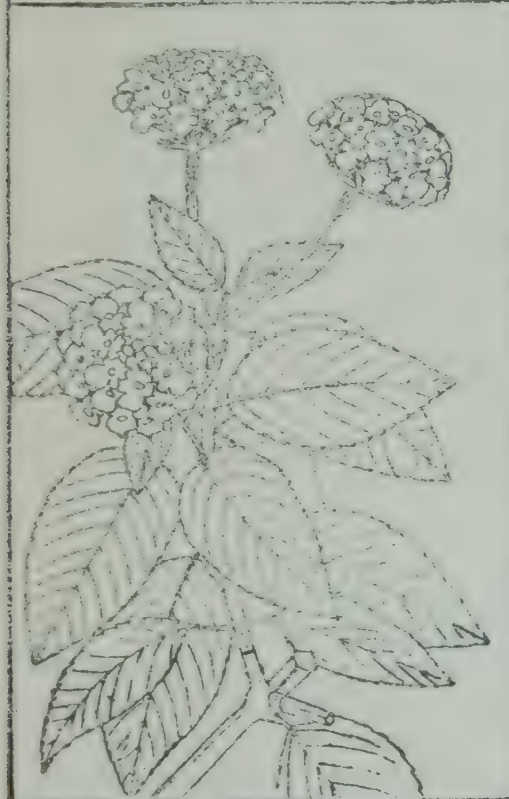
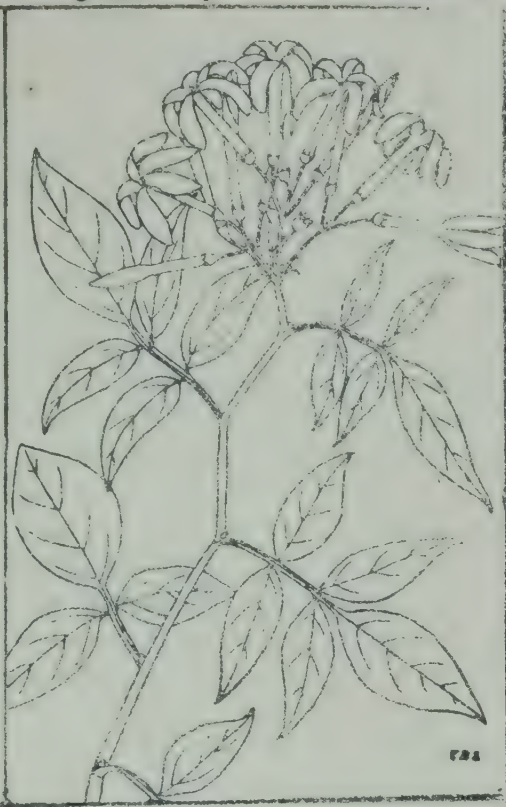


Fig. 62.—*Lantana hybrids*.

Fig. 63.—*Launaria Templetoni*.

E. fulgens (= **E. Jacquiniaeflora**).—Straggling or sub-scandent, leafy, the axillary flowers with bright orange-scarlet bracts forming a long wreath along the stem. Tender.

E. splendens (Christ's Thorn).—An erect spinose succulent shrub, 2 to 6 feet high, often leafless, with the flower scapes on axillary peduncles, and having 2 scarlet bracts at each flower. Tender to frost, but excellent as an ornamental shrub or as a hedge where frost is absent. Strikes easily. (Fig. 60).

E. pulcherrima.—See *Poinsettia pulcherrima*.

Eurya japonica (Ternstroemiaceae).—An evergreen shrub 5 to 6 feet high, somewhat like a *Camellia* in habit and leaf, and with large white flowers. A highly ornamental yellow-variegated form also is in cultivation here, but is difficult to propagate.

Fabricia laevigata.—See *Leptospermum laevigatum*.

Fatsia.—Ornamental sub-tropical shrubs of striking habit, usually with very effective foliage and poor flowers. Increased by cuttings, or in some by suckers.

F. japonica (= **Aralia Sieboldii** and **A. japonica**).—Has shining palm-like leaves; one form has white variegated leaves, and another golden variegated leaves.

F. papyrifera (= **Aralia papyrifera**).—A vigorous large palm-like plant. (Fig. 8).

F. horrida (= **Panax horridum**) is a 6 ft. shrub with white flowers.

Ficus.—This genus contains many beautiful foliage and shade trees, but in all cases the insignificant flowers are enclosed in figs; **F. indica** is the Banyan; **F. elastica** the E. Indian rubber tree; **F. macrophylla** is a fine Australian species; there are several indigenous species, and there are variegated-leaved forms of **F. elastica** and **F. Parcelli** in cultivation here, while the small **F. repens** is one of the few creepers self-supporting on brickwork. Most kinds strike easily, a few are raised from seed and all enjoy a climate from which frost is absent.

Flame Tree.—See *Sterculia acerifolia*.

Flamboyant.—See *Poinciana regia*.

Forsythia.—Deciduous, nearly hardy shrubs with usually simple leaves and with yellow axillary flowers which usually appear while the shrub is leafless. Increased by cuttings or layers

F. suspensa (Fig. 52) and **F. viridissima** are frequent in cultivation in Europe and occur occasionally here.

Fraxinus.—Deciduous trees, including the European Ash (**F. excelsior**); the American Ash (**F. americana**); the Flowering Ash (**F. ornus**), and others, which do well here in reasonably moist but not wet forest soil. They stand severe frost while leafless, but on dry land they do not succeed. They are raised from seed and are trees of vigorous habit and ornamental foliage, but the flowers are inconspicuous except those of **F. ornus**.

Fuchsia.—Shrubs or trees, mostly American, but including some New Zealand timber trees. Mostly half-hardy or tender, and often varying from evergreen to deciduous in accordance with the climate. Many form excellent pot plants in one or more season's growth from cuttings and they are favourites as florists' flowers; most of the numerous single and double garden varieties are hybrids, but among the original species still cultivated are:—*F. boliviana*; flowers crimson, 2-3 inches long, tube trumpet shaped; *F. corymbiflora*, flowers freely, in terminal clusters, flowers scarlet, 2 inches long; *F. fulgens*, tube 2 inches long, scarlet, and its seedling—Earl of Beaconsfield—rosy-carmine; *F. macrostoma*, var. *globosa*; var. *Riccartoni*, from Chile, hardy, flowers small but very freely produced, calyx scarlet, tube short; *F. serratifolia*, petals scarlet, sepals red; *F. splendens*, flowers long, scarlet and green.

Galphimia nitida and several other species are free-flowering semi-deciduous shrubs 5 to 8 feet high, fairly hardy, and propagated by cuttings. Flowers yellow, well worth cultivation, all are from Mexico.

Gardenia florida (Katje-peering). An evergreen shrub 4 to 8 feet in height, of bushy habit and branching abundantly, bearing glossy dark-green leaves and often having a flower terminal on each branch, with a new branch rising on each side a few inches lower. The flowers are pure white, 3 inches across, sweetly scented and usually full double, and are produced continuously throughout the summer season up country and throughout the winter also on the coast. The flowers are much in demand for making wreaths and bouquets and stand well as cut flowers when not bruised. The plant, which is a native of China, endures a good deal of frost but much prefers frost-free forest or coast localities and as the size and substance of the flowers depend on the vigour of growth suitable conditions give best results. It likes moist forest soil and humid atmosphere and vigour can be added by giving abundant manure. It can be grown from cuttings, but as this means under ordinary South African conditions is rather slow it is more frequently grafted on to seedlings of the native *Gardenia Thunbergii*, and a large plant is thereby secured earlier.

In Europe and North America it is much cultivated as a stove or greenhouse plant for its flowers and in such cultivation it has been found that the rapid growth produced by bottom-heat gives very fine flowers rapidly, even from newly struck cuttings. In the United States of America a large industry exists of growing winter flowers of *Gardenia* in this way. A variegated-leaved variety is in cultivation in Europe. (Figs. 4 and 64).

Gardenia radicans is a smaller evergreen shrub than *G. florida*, usually only 1 to 3 feet in height with prostrate branches



Fig. 64.—*Gardenia florida*, fl. pl.

which root freely into moist ground and usually double or semi-double strongly scented pure white flowers 2 inches across. It is a native of China and easily grown but as the flowers are smaller and less double than those of *G. florida* it is less frequent in cultivation. It propagates by layers or cuttings.

For South African *Gardenia* species see indigenous list.

Genista.—Free-flowering shrubs, sometimes spinose, usually evergreen and all having yellow flowers; *G. anglica* 'Furze' is the type of the group. All grown from seed which requires to be soaked in boiling water and left in it to cool for 24 hours. There are many species, but they are not common in cultivation.

Gleditsia triacanthos.—A fairly large deciduous hardy N. American tree having bright green Acacia-like foliage during summer and notable for its numerous black pods 12 to 18 inches long which hang on the bare branches through winter. Easily raised from seeds soaked long in boiling water, and sometimes rather a nuisance on account of suckering from cut or damaged roots. It sometimes bears immense branched spines and is usually spinose, though there is also an unarmed variety and also one of pendulous habit. The flowers are small and greenish in catkin-like spikes.

Gossypium.—Cotton. Shrubs 6 to 10 feet high, annual, biennial or perennial, having large plane-like leaves, and Hibiscus flowers 3 to 5 inches across, the petals are yellow with a purple spot at the base and the yellow changing to cream or pink with age. Does not stand frost, but under subtropical conditions is quite ornamental. Easily raised from seeds. These shrubs are also ornamental when the open white cotton balls are showing.

Grevillea Caley (Scarlet Grevillea). A large evergreen shrub usually 6 to 10 feet in height with a branched and rather spreading habit and with numerous dense terminal racemes of scarlet flowers which are produced continuously throughout the year where frost is absent, and throughout the summer where frosts are not severe. It is as hardy as *G. robusta*, but is more of the nature of a garden shrub, suitable for a site near the house or in the lawn, where its free-flowering habit and brilliant colour make its presence desirable. It is a native of New South Wales; it seeds freely, is easily raised from seed and begins to flower when only one year old. It is less particular about soil or aspect than *G. robusta*, but does best where the soil is deep and reasonably moist. (Fig. 65).

Grevillea chrysodendron. An evergreen Queensland shrub, apparently identical with *G. Caley* except that the flowers are creamy-yellow. The terminal racemes are produced in abundance throughout the summer; seed is also freely produced, and reproduction is effected by seeds only.



Fig. 65.—The Scarlet Grevillea, *G. Caleyi*.

Grevillea robusta (Silk Oak). This Australian tree rapidly grows to a large size, and eventually reaches a height of 100 feet or more. Its dark green fern-like foliage is very attractive, and gives the young tree a graceful appearance which leads to seedlings 1 to 3 feet in height being much in use in Europe as table plants in pots; here the young trees are frequently used in the same way for hall decoration and similar purposes, but it is as a planted out tree that it attains its greatest beauty. It enjoys sub-tropical conditions and also endures light frosts without injury, but where frosts are severe it suffers or succumbs. It does best on cool hillsides, where moisture is seldom absent, and though it endures strong sunshine it is less satisfactory in hot dry aspects, especially above shale, than it is in deep soil on southern or south-eastern slopes. Where subjected to extreme heat and drought, or to extreme frost, it is often more or less deciduous but in congenial conditions it is quite evergreen. The racemes or panicles are many-flowered, one-sided, horizontal, and abundantly produced in spring; the flowers are golden yellow, and though individually small the mass is very effective, and the golden crown can often be recognised from a long distance. Flowering lasts one to two months, and the seeds ripen about Christmas or during January, and if not collected at once soon disappear, and no more are available till next season.

Sown at once these germinate quickly, or they can be dried and kept till next spring but thereafter quickly lose vitality. The leaves of mature trees are often silvery-white on the under surface, which contrasts well with the dark-green upper surface when shaken by the wind.

The tree produces a highly ornamental timber which is in demand for furniture and carriage-building, and is often imported from Queensland and New South Wales in slabs 18 inches or more in width.

This is one of the best half-hardy flowering trees of large size for landscape effect in streets or parks or in larger gardens, but it is not advisable to have it close to a house as past leaves continue to fall at all seasons and are apt to block up rain-water spoutings. (Fig. 10).

Grevillea Hilliana. An evergreen tree 50 to 60 feet in height, slower in growth and more bushy in habit than *G. robusta*, but with leaves similarly dark-green on the upper surface and silvery under, and having the flowers white, in erect dense spikes 6 inches long remaining one of *Cunonia capensis*. The leaves vary much in shape from simple to pinnately 3 to 5 lobed and are up to a foot long and the lobes an inch or more in width. The flowers are produced during summer, and though the tree is not common it ought to be, in localities where severe frosts are not

experienced. It is grown from seed and is a native of Queensland and New South Wales. (Fig. 66).

Gymnocladus canadensis.—An ornamental hardy deciduous tree with white flowers in terminal racemes. Likes moisture in spring. Propagated by seed or root cuttings.

Habrothamnus.—See *Cestrum*.

Habrothamnus cyaneus.—See *Ioichroma*.

Hakea.—Evergreen Proteaceous Australian shrubs, formerly much used for hedge purposes, but through various causes less popular now. They form nice specimen shrubs, flower freely, and may be clipped if that is desirable. All are raised from seed, and do best in poor sandy soil.



Fig. 66.—*Grevillea Hilliana*. Fig. 67.—*Liquidamber, Styraciflua*.

H. eucalyptoides.—Leaves lanceolate, half-inch wide. Flowers either white or pink. Much used for hedges in Johannesburg, little elsewhere.

H. linearis.—Leaves needle-like. Naturalized on Cape Flats and used elsewhere for hedges.

H. suavolens.—Leaves pinnatifid. Used for hedges where frost is absent.

Heliotropium peruvianum, *Heliotrope*.—A well-known and favourite tender shrub, producing abundant cymes of scented flowers which are lilac, pinkish-lilac, or nearly white. Known



Fig. 68.—*Hibiscus sinensis*, Single.

to many as "Cherry-pie." Cuttings strike easily, or it may be raised from seed. Does not stand frost, but is often grown as a verandah pot plant, for which purpose it does best under abundant light. (Fig. 9).

Hibiscus.—Shrubs and large shrubs, mostly evergreen, tender to frost (except *H. syriacus*), and bearing in abundance under sub-tropical conditions large and showy flowers of bright colour, which make them conspicuous wherever they do well. Besides being used as specimen shrubs most of them are used as hedge-shrubs where climate admits. No genus is more floriferous, or so productive of large flowers of gaudy colour. All are easily struck from cuttings and it is usual when planting *Hibiscus* hedges near the coast to plant unrooted cuttings. All stand pruning, either closely and frequently, or occasionally and severely.

H. mutabilis.—A large half-hardy semi-deciduous, free-flowering shrub; the flowers are 4 to 6 inches across, deep rosy-pink at first, changing to yellowish with age. Usually singles, but there are double forms also. Grows from seeds or cuttings. (Fig. 17.)

H. rosa-sinensis, or as it is more frequently called *H. sinensis*, is a tender evergreen shrub 8 to 12 feet high with beautiful dark green glossy leaves and numerous scarlet flowers six inches across. This is the kind mostly used on the coast for hedges, but excellent also for specimens wherever frost is absent, and is known as the Chinese Rose. There are crimson, scarlet, pink and yellow varieties and double, semi-double and single forms of each. (Figs. 68 and 71).

H. rosa-sinensis Calleri is a small double form with buff-yellow petals, each having the base scarlet.

H. rosa-sinensis Cooperi is a single-flowered form with rather small scarlet flowers and with leaves blotched white and crimson and margined red.

Hibiscus schizopetalus resembles the last somewhat, but the leaves are smaller, the branches longer, and the flowers smaller, with spreading muchfringed scarlet petals. It is usually known as the Fairy Hibiscus. (Fig. 70).

Hibiscus syriacus (= *Althaea frutex*) is known as the Rose of Sharon, or by some as the Christmas Rose, and is quite different from all the foregoing. It is hardy under all reasonable conditions; makes a deciduous bush 6 to 8 feet high or can be kept as a hedge 6 feet high or less. There is a single and a double white and a single and a double violet form of this species, all easily raised by cuttings and all useful as specimen or hedge plants. (Fig. 69).

Holmskioldia sanguinea.—A straggling shrub or half-creeper from E. Indies, which however can be kept in a compact bush



Fig. 69.—*Hibiscus syriacus*. Christmas Rose.

by clipping. It is free-flowering, and the calyces are brick-red or sometimes scarlet, the flowers are produced on the young growth in autumn or early winter. Half-hardy. Cuttings strike easily. There are several Zambesian species.

Horse Chestnut.—See *Aesculus*.

Hydrangea.—Nearly hardy shrubs or small shrubs, mostly from China and Japan; the kinds in common use which are forms of *H. Japonica* and have large globose cymes of flowers, are deciduous except in warm and sheltered localities, and strike easily from cuttings of hard or soft wood, and often flower during their first season, being then attractive market-garden flowers. The flower-heads last several months, which makes them specially suitable for window boxes, verandah plants, or small gardens, but they are also suitable for extensive landscape garden work in masses, especially in moist woodland or in situations which never become very dry. There are many named varieties of *H. japonica*, from white, through pink to blue, the blue colour being accentuated in any variety by the presence of iron in the soil. Some have fringed petals, others very large flowers, and some have white-variegated foliage, which in itself is attractive. The most common varieties are *hortensis* (flowers all sterile), *Thomas Hogg* (white), *Otaksa* (flesh-coloured). (Figs. 7 and 73).

H. Thunbergii is similar in habit, but has sterile flowers along the outside of the cyme, and small fertile flowers toward the centre.

H. paniculata, also from Japan, is different, more hardwooded and more hardy, but less common, and difficult to strike. It grows 5-6 feet high, has beautiful panicles of large white flowers and does best when cut hard back every winter, flowering panicles being then large and numerous. terminal on vigorous young shoots.

Hymenosporum flavum.—A pyramidal evergreen tree, growing to 30 feet height in a few years, and in spring abundantly festooned with its corymbs of orange-yellow flowers. The individual flowers are about an inch across, with gracefully recurved petals, and are sweetly scented, especially at night, when one tree in flower scents its whole neighbourhood. It is fairly hardy against frost, but suffers from long-continued drought, and best enjoys a deep alluvial soil with constant moisture in the subsoil.

The timber of this tree is somewhat brittle, and is easily damaged by wind-storms, so it is best, where convenient, either to give it a position sheltered from wind, or else to take off its leader and keep it in big bush form, say 10 feet high. It seeds freely, and is usually reproduced from seed, and is well worth a place in any garden where conditions are suitable. (Fig. 72).

Fig. 70.—*Hibiscus schizopetalus*
and *H. sinensis duplex*.



Fig. 71.—*Hibiscus sinensis*
double sc. and double yellow.

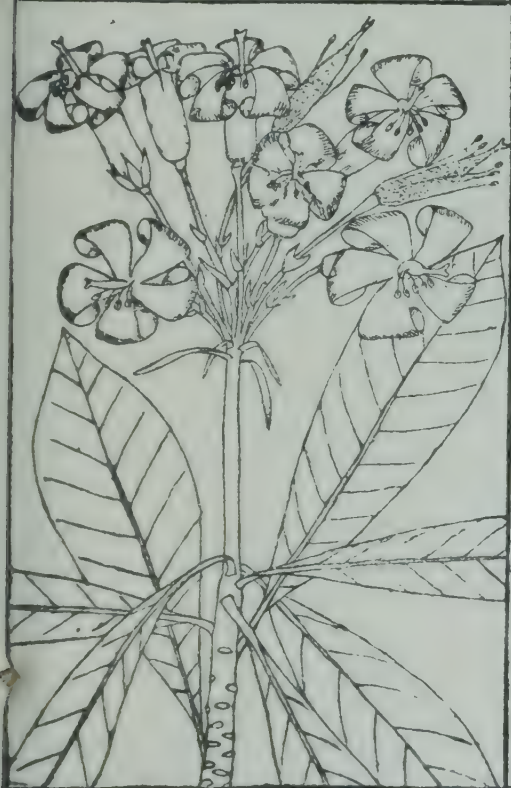


Fig. 72.—*Hymenosporum flavum*.

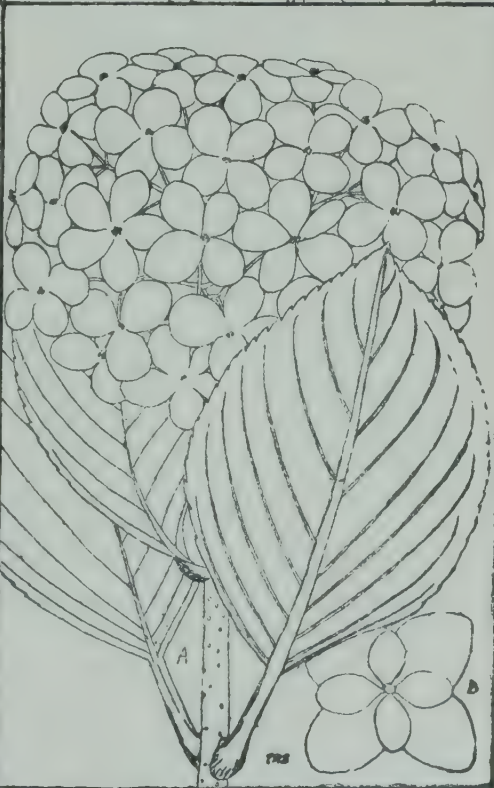


Fig. 73.—*Hydrangea hortensis*.

Hypericum calycinum.—An evergreen hardy shrub 2 to 3 feet high, producing an abundance of yellow flowers 2 inches across. It is a native of Britain and often cultivated there. Increased by cuttings, and by suckers. Does not endure extreme drought.

Ilex aquifolium. (The Holly-tree).—An evergreen European shrub or tree, 5 to 20 feet high, having normally spinose shining dark-green leaves and abundant scarlet berries about the size of peas; a great favourite in English gardens and for Christmas decoration, holly and mistletoe being the symbols of Christmas cheer. It endures frost better than heat, especially moist forest frost, but does not survive either cold or hot dry winds. Consequently in many parts of South Africa it is not satisfactory, but where it gets suitable conditions it does well. Very subject to various scale-insects. Trees differ in respect to their self-fertilizing ability, consequently where only single trees are present these may be either altogether male and seedless, or more or less hermaphrodite and seed-bearing. Seeds are most abundantly produced where many trees are present and cross-fertilization is fairly certain. The flowers are small and white.

In Europe very many varieties exist, having leaves varying from bristly spinose to spineless, waved, curled, cut, and variously gold- and silver-variegated, and also with variations in the colour of the berries. Here the original species, raised from seed and increased by layer or cuttings is most frequent, though variegated and other forms are occasionally imported from Europe, where these special forms are grafted and budded in quantity.

Illicium.—Evergreen Magnoliaceous shrubs about 5 ft. high, requiring sub-tropical conditions and having beautiful fragrant flowers. They are increased by cuttings, and thrive in warm loamy soil.

I. anisatum, from Japan, has small yellowish-white flowers in terminal clusters.

I. floridanum, from Florida, has the flowers red, with many petals.

Iochochroma tubulosa (= *Harbrothamnus cyaneus*).—A vigorous half-hardy rough shrub six to eight feet high, more or less evergreen, producing abundantly its many-flowered cymes of tubular dark-blue flowers 2 inches long. Cuttings strike easily; frost kills down soft growth, but the bush often recovers from the harder wood below.

Ixora.—Many species of evergreen shrubs or small trees, all tropical or sub-tropical, having handsome scarlet, pink or white flowers in terminal corymbs. In Europe they are considered among the most handsome and gorgeous of stove plants; here

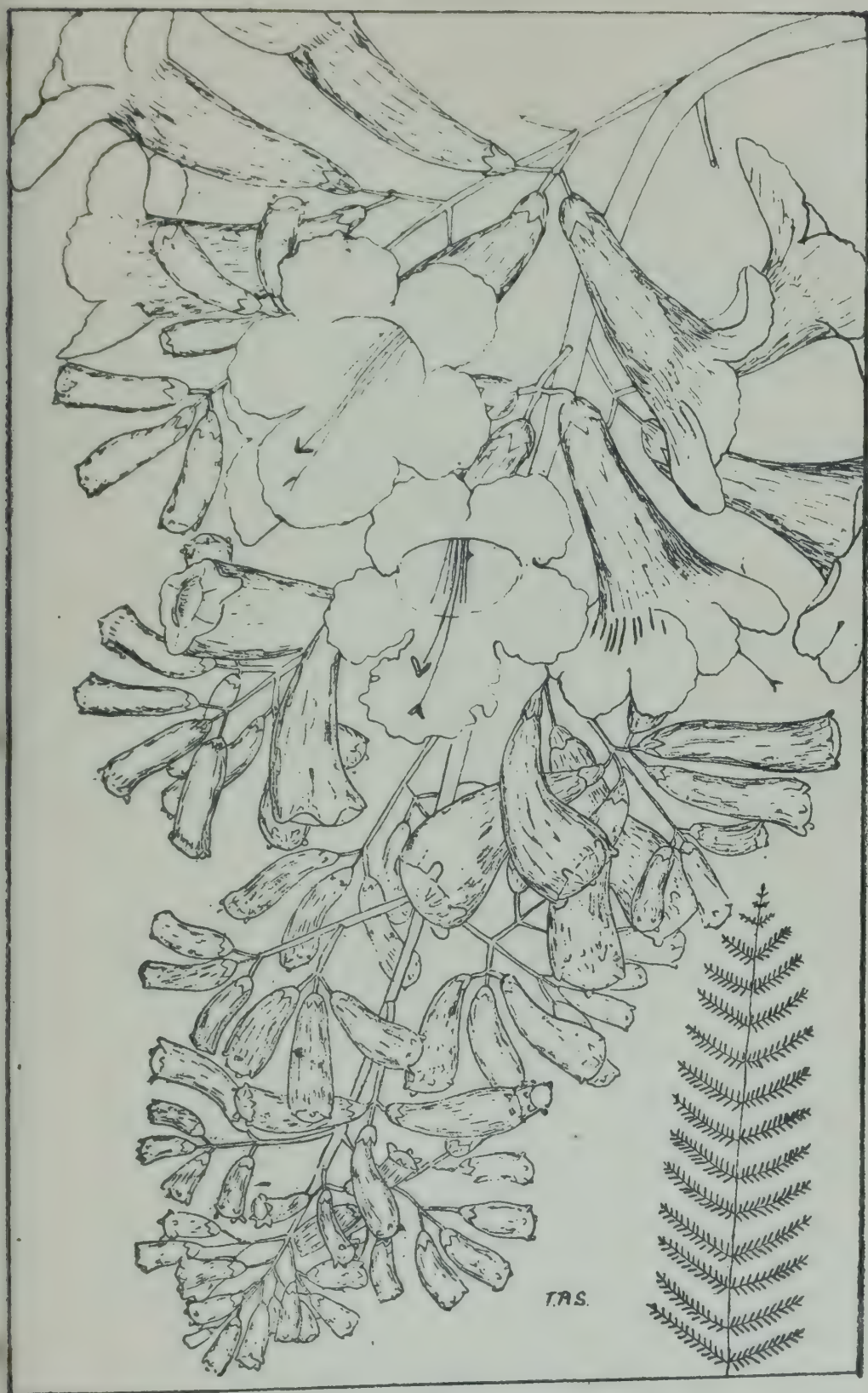


Fig. 74.—*Jacaranda mimosaeifolia*.

most of them do well in sheltered gardens along the coast belt. All propagated by cuttings. Among the best are:—

I. acuminata.—Flowers white, fragrant, in large corymbs.

I. coccinea.—Flowers scarlet in large heads or corymbs; tube of flower 2 inches long.

I. floribunda.—Flowers reddish-scarlet, in dense corymbs.

I. odorata.—From Madagascar and Zambesia. Flowers at first white, then yellowish-brown, fragrant, in dense terminal panicles 4 to 10 inches diameter.

I. stricta.—Flowers orange, and various coloured varieties. There are many other species and garden hybrids.

Jacaranda mimosaeifolia. A highly ornamental tree, deciduous up-country, more or less evergreen toward the coast, having beautiful fern-like leaves 12 to 18 inches long, and in spring a profusion of panicles 9 to 18 inches long of blue fox-glove flowers, usually dark-blue, though occasionally of lighter or lilac shades, and there is also a white variety which, however, has not yet been seen in South Africa. Where the tree is deciduous the flowers usually appear rather earlier than the leaves and consequently show to advantage. *Jacaranda* used to be considered tender, but it is found to be quite hardy in Dundee, Johannesburg, and elsewhere, though it often happens that young tender shoots are cut back by frost, but start again from below. Like most deciduous or semi-deciduous trees it can be grown in nursery lines in the open ground till 6 or 8 feet high and then transplanted with safety while leafless, but more frequently the young plants are kept in boxes till final planting. The seeds which are flat and contained in a bi-valve fruit, are produced in South Africa freely and as there is no difficulty in raising trees from seeds cuttings are seldom used, though the tree may also be propagated by that means and it is used for perpetuating the distinct colours. The seedling plants are highly decorative foliage plants; they usually begin to flower when 3 or 4 years old and 6 to 10 feet high, and flower annually thereafter, and we have few spring or early-summer flowering trees which make more show or so well deserve a place. *Jacaranda* can be kept in bush form or grown as a standard tree in accordance with the method of pruning adopted; if left unpruned it usually forms a branched tree. It enjoys deep soil and sub-tropical conditions, but is more floriferous and flowers at smaller size on a shale subsoil or under colder conditions. (Fig. 74).

Jasminum.—Shrubs, trailers or climbers, mostly evergreen, with usually showy, often fragrant, white or yellow flowers usually in terminal cymes. Many are hardy or nearly hardy; all are easily propagated by cuttings.

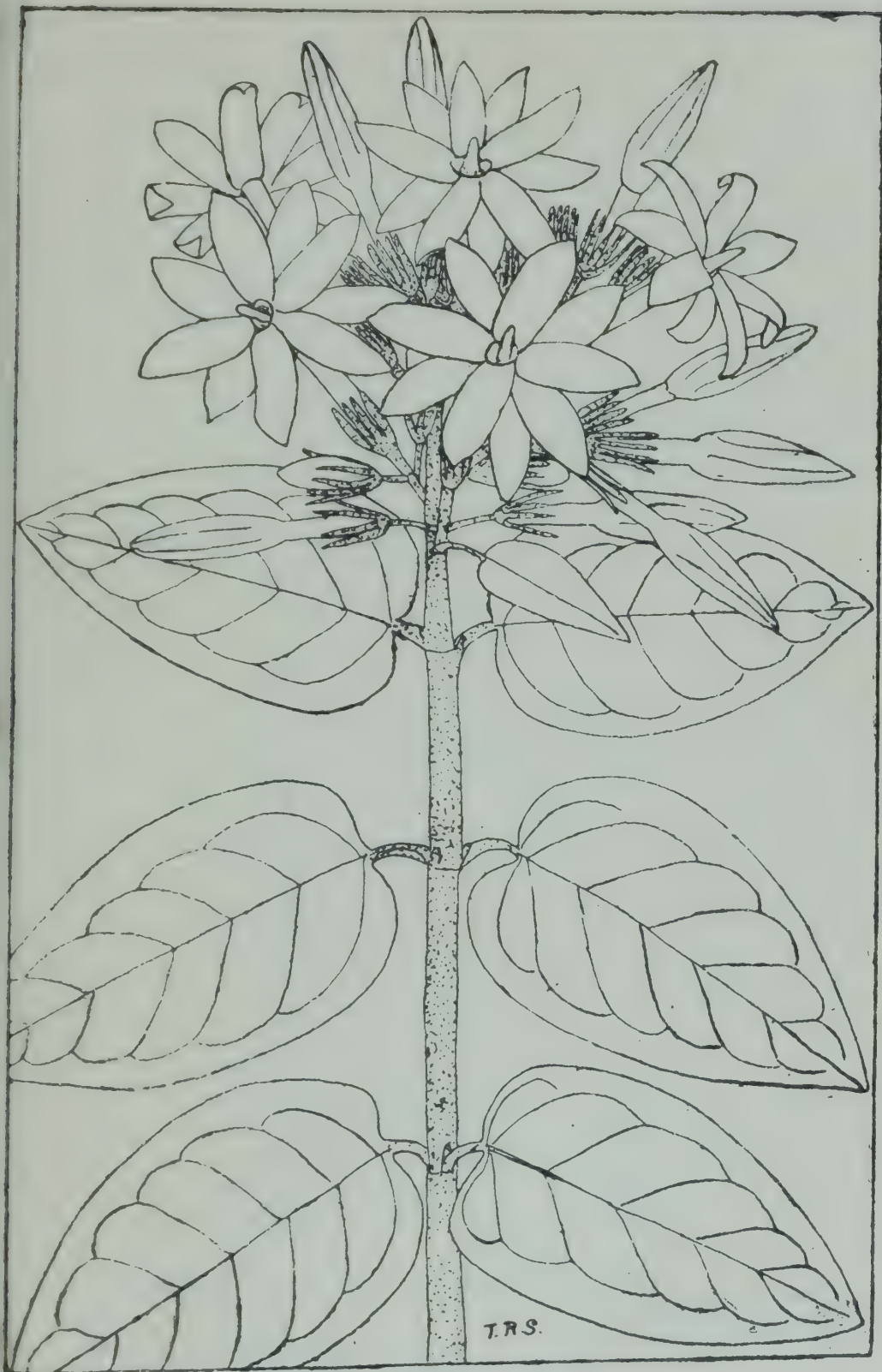


Fig. 75.—*Jasminum sambac*.

J. floridum.—A 3-foliate free-flowering yellow evergreen shrub from China.

J. fruticans.—A prostrate hardy yellow-flowered evergreen shrub from S. Europe.

J. grandiflorum.—A vigorous shrub-creeper, with pinnate evergreen leaves and white flowers, much cultivated in the tropics.

J. nudiflorum.—A deciduous shrub, 2 to 3 feet high, having axillary yellow flowers.

J. revolutum.—A vigorous shrub 6 to 8 feet high with pinnate evergreen leaves and bright yellow flowers in terminal cymes. Much cultivated. (Fig. 61).

J. sambac.—A vigorous evergreen shrub-climber, having simple leaves and large white scented flowers in terminal cymose corymbs. Leaves sometimes variegated. (Fig. 75.) There are many other species, some of the best are South African.

Kerria japonica.—A hardy rosaceous shrub 3 to 4 feet high, having erect stems and orange-yellow double flowers abundantly produced on short lateral branchlets. Suckers somewhat, and is easily increased by cuttings. There is a variegated-leaved variety also.

Laburnum (formerly included in *Cytisus*).—Leguminous, hardy, deciduous shrubs or small trees, very floriferous in spring under the moist cold conditions of Northern Europe, but less floriferous here. Grown from seed, or improved varieties increased by budding or grafting. Seeds require to be softened in water almost boiling.

L. vulgare (= *Cytisus laburnum*).—A small tree, with many varieties (pendulous, fastigate, etc.).

L. Adami.—A shrub or small tree with purplish flowers; a hybrid which reverts occasionally to either parent.

Lagerstroemia indica (**Pride of India**). *Crepe-flower*. A large hardy shrub or small tree, 10 to 20 feet in height, more or less evergreen on the coast, usually deciduous where frost occurs, the leaves often turning red before they fall. The flowers are produced in terminal many-flowered panicles which are sometimes up to 12 inches in length and width; the individual flowers are 1 to 1½ inches across and the petals are curiously crisped. Unpruned trees usually flower freely with small panicles on twiggy wood during early summer and are without flowers later on; severely pruned trees on the contrary produce vigorous young branches on which huge terminal panicles open about midsummer and continue to appear until winter; it is consequently a common practice to cut back all stems to 4 or 5 feet from the ground on purpose to obtain these fine trusses. *Lagerstroemia* stands this severe pruning year after year without injury and seems to enjoy

it. It likes deep soil and to have moist soil in spring: given these conditions it does well in all parts of South Africa. The most common form is a beautiful rose-pink colour; the pure white is also very pretty and there are intermediate pinkish shades and also deeper shades approaching mauve which though equally free-flowering are less pleasing. It reproduces readily from seed which is abundantly produced, but seedlings cannot be relied on to reproduce the colour of the parent. For this purpose cuttings are used, and during winter strike easily. *Lagerstroemia* suits every garden, whether large or small, and can be pruned to fit. It is a native of India and China. (Fig. 76).

Lagerstroemia reginae is a larger tree from India bearing similar trusses of flowers larger than those of *L. indica*. The flowers change colour from pink to purple during the day and are less pleasing than those of *L. indica*. Its treatment is the same, except that it is sub-tropical and does not stand frost. (Fig. 6).

Lagunaria Patersoni. An evergreen Malvaceous tree from New South Wales, growing to 40 or 50 feet height and producing during summer its bell-shaped rosy-pink axillary flowers in great profusion. It is hardy where frosts are not severe, grows rapidly and can be used as a street-tree or lawn-tree, its pyramidal form fitting in well with artificial and formal surroundings. The foliage is of a dusty-gray colour and so forms a useful contrast to dark-green foliage in landscape work. It seeds freely and is easily raised from the seeds, but should be finally planted out while still small. (Fig. 63).

Lantana hybrids.—Many species of *Lantana* are in cultivation, mostly from America and the West Indies. One small species is a native of South Africa and another exotic species has become naturalised in South Africa and reproduced by seed to such an extent as to be occasionally a troublesome weed, known as **Cherry-pie**. But of recent years a new race of hybrids has appeared in which the varieties have decided colours, either white, yellow, or pink, or some combination of these, which is well worth cultivation and in which the tendency to run wild has not yet been seen. These varieties are among the most free-flowering shrubs we have, the flowers being produced all through the year in the coastal districts and all through the summer elsewhere. The habit is a somewhat straggling bush 3 to 4 feet in height, but it is easily kept in form by pruning, and the white and yellow varieties in particular can produce rounded compact bushes covered with flower at all times, if treated to a little judicious pruning. There is also a yellow-leaved variety which can be used as a colour variation in landscape work. These *Lantana* hybrids



Fig. 76.—*Lagerstroemia indica*.

endure light frosts, but are killed back to the old wood by severe frost, and usually start fresh again after winter is past. They are easily propagated by cuttings, and some of them produce seeds. (Fig. 62).

Lasiandra.—See *Pleroma*.

Laurestinus.—See *Viburnum tinus*.

Laurus nobilis. (Bay Laurel).—An evergreen shrub or small tree, much used as a hedge shrub in Europe. Flowers white in spikes. In the cooler forest localities of South Africa it does well and its foliage is highly ornamental, but in the warmer and colder and drier localities it is usually a failure, and very subject to scale-attack.

Leptospermum (including *Fabricia*).—Australian shrubs with small simple leaves and white axillary or terminal flowers. There are many species, mostly lovers of coast sands. They are easily raised from seeds but rather difficult to transplant in any but sandy soil, and few of them stand much frost. The best known here are:—

L. laevigatum (= *Fabricia laevigata*).—An excellent hedge shrub in suitable localities; naturalised on the Cape Flats. Makes also an ornamental specimen shrub, and is very pretty when covered with its white flowers. Clips into shape well. Seldom successful on stiff soil.

L. scoparium.—A compact free-flowering shrub 4 to 6 feet high.

Leycesteria formosa.—An ornamental half-hardy deciduous shrub, having white flowers, tinged purple, in terminal racemes on branches and branchlets, followed by white berries. Propagates by cuttings.

Ligustrum (= Privet).—Hardy shrubs, mostly evergreen, having dark-green simple leaves and terminal panicles of white flowers. Can be raised from seeds, but usually increased by cuttings except such species as do not strike readily. All are subject to scale insects and to a borer, which are both worst where conditions are unsuitable.

L. japonica (Japanese Privet).—The most common hedge privet; leaves ovate-acuminate. Shrub 6 to 10 feet.

L. lucidum.—Leaves ovate-lanceolate, large; panicles large and loose; shrub 10 to 12 feet.

L. massalongianum.—Leaves narrowly lanceolate.

L. ovalifolium.—Leaves oval, inflorescence a compact thyrsus. Much used.

L. ovalifolium variegatum (Golden Privet).—Young leaves bright yellow, whiter when older, highly ornamental.

L. sinense.—Leaves ovate-lanceolate, hairy below, with pubescent branches; evergreen or nearly so.

L. vulgare.—Leaves elliptic lanceolate, small; plants small. Seldom used here.

L. vulgare variegatum (Silver privet).—Leaves blotched a bright golden colour.

Lilac.—See *Syringa*.

Linum trigynum.—See *Reinwardtia trigyna*.

Lippia citriodora.—See *Aloysia*.

Liquidamber styraciflua (American Sweet Gum). A hardy deciduous tree growing rapidly to a large size and forming one of the most ornamental shade trees we have. The general appearance is like that of a maple or plane; it has the male and female catkins separate on the same terminal inflorescence and though the flowers are greenish-yellow and not very conspicuous they are sweetly scented when young. The leaves often assume bright red autumn colours before they fall and the bark at some stages is corky. Like most other North American trees it likes to have moist soil in spring when the young growth is starting. It is usually grown from imported seeds, as few trees have yet seeded in South Africa. (Fig. 67).

Liriodendron tulipiferum. **The Tulip-tree.**—This beautiful tree is one of the few North American deciduous trees which do really well in South Africa. It enjoys slight frosts, and even endures severe frosts, if grown in loamy soil which is not altogether dry during winter and spring. The tree is often 50 to 60 feet in height and occasionally much more, with a clean straight bole and a much branched wide spreading crown; it is indeed a useful timber tree though not yet sufficiently abundant in South Africa to be used in that way. The curiously-shaped leaves are very soft light-green in spring, at which period the flowers also are produced, but later in the season the leaves become firmer and darker green. The flowers, which are cup-shaped and about 3 inches across, are greenish-yellow, shaded yellow or brownish-red; they are daintily pretty and of very unusual appearance, though not very conspicuous upon the tree, but they stand well as cut flowers in water, and are worth a place. The name Tulip-tree is given from the marked resemblance of the flowers to Tulip flowers, but apart from external resemblance there is no botanical relationship. The tree is usually grown from seeds, but it often happens that only about one in a hundred seeds germinates, whether the seed be imported or South African grown. Many South African trees of this species which have been flowering for years have not yet yielded any fertile seeds, although the flowers are understood to be self-fertilizing. (Fig. 77).

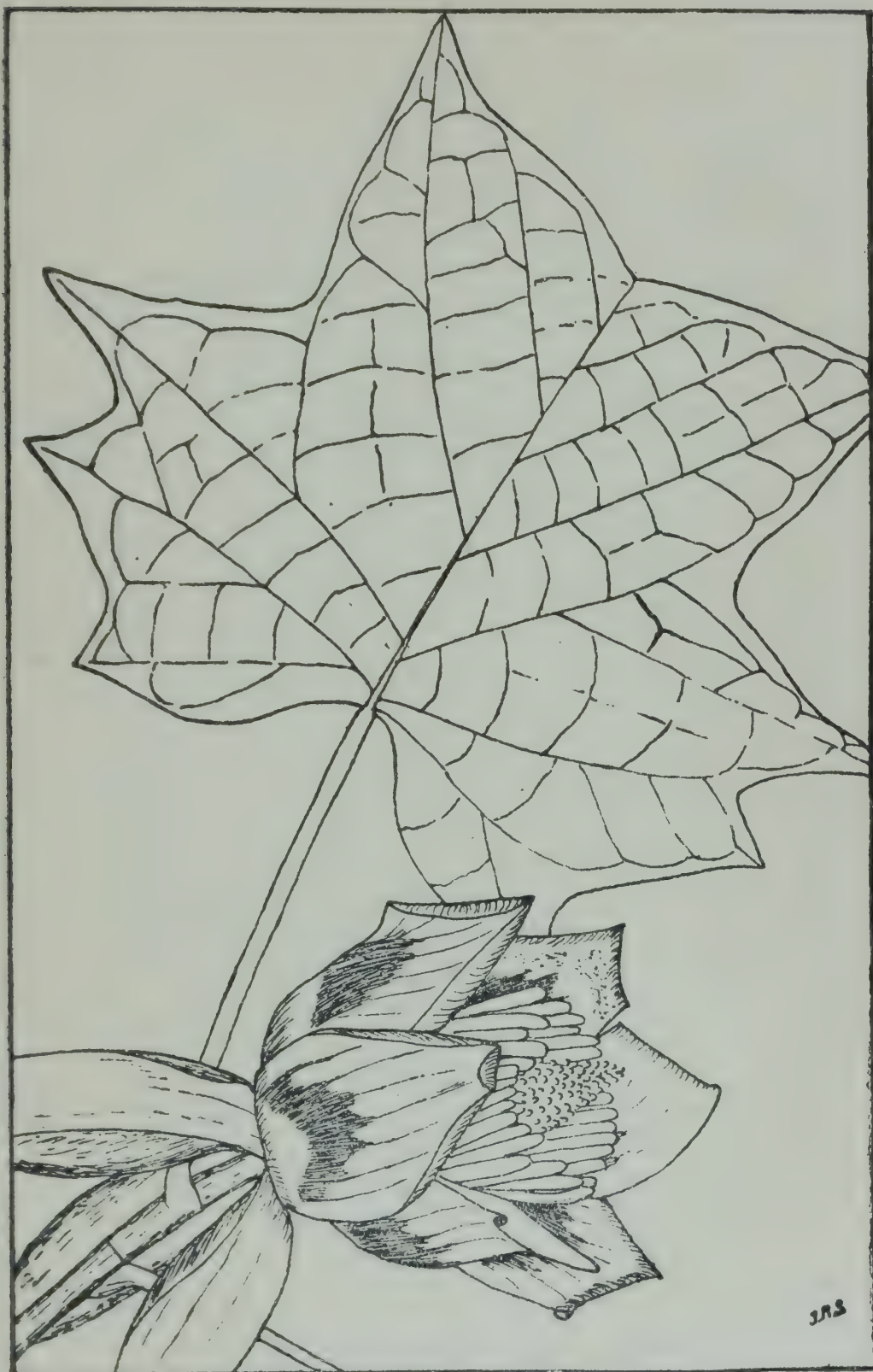


Fig. 77.—*Liriodendron tulipiferum*.

Lonicera (Honeysuckles).—Evergreen or in some cases deciduous hardy shrubs or twiners, all assuming bush habit in absence of support. Flowers white, yellow, red or purplish; often scented. Old favourites, but there are many beautiful new species recently introduced into Europe from China and Japan which have not yet reached us, some with flowers 6 to 8 inches long and of bright colour. Among the old kinds are:—

L. flexuosa.—Flowers yellow, axillary, few. Leaves ovate-oblong, often lobed, shortly petiolate, glabrous.

L. flexuosa, var. aureo-reticulata (Japanese Honeysuckle).—Leaves brightly variegated; much in use, usually as a verandah climber or rockery creeper, but seldom seen in flower.

L. periclymenum (Common Honeysuckle; Woodbine).—Flowers white, changing to yellow.

L. sempervirens.—Flowers scarlet outside, yellow inside; leaves obovate or ovate, upper connately-perfoliate. Known as Red Honeysuckle.

L. punicea.—Deep red or crimson. Leaves ovate, subcordate at the base, glaucous, sometimes downy. There are many others.

Luculia.—Handsome evergreen Asiatic Rubiaceous shrubs with terminal cymes of sweet-scented flowers. Usually propagated by seeds.

L. gratissima.—Shrub 9 to 16 feet high rose-coloured flowers.

L. Pinceana.—Flowers white.

Lycium (Boxthorn).—Shrubs 2 to 4 feet high, of which there are several species, mostly hardy or nearly so, and often used as hedge-shrubs. The flowers are not large and vary from white to purple; they are freely produced, but it is the scarlet berries which are the feature of the group. These shrubs are mostly spine-producing, and consequently form a fairly good hedge where they make vigorous growth, especially as they stand trimming well. The leaves are abundant and evergreen on good soil where frost is absent; elsewhere they are sometimes deciduous, and under Karroo conditions they are sometimes not produced though growth continues and flowers and berries are abundant. Grown from seed, but can be transplanted while young.

Magnolia.—A genus of shrubs or trees belonging to Japan, China, India and North America, all producing very beautiful flowers, in some species scented. Usually raised from seed, but sometimes by layers or grafts. They are fairly hardy and enjoy forest conditions best.

M. conspicua.—A hardy deciduous species making a tree 20 feet high, very floriferous, the flowers white, suffused with purple, and very fragrant. There are several named varieties of it. (Fig. 78).

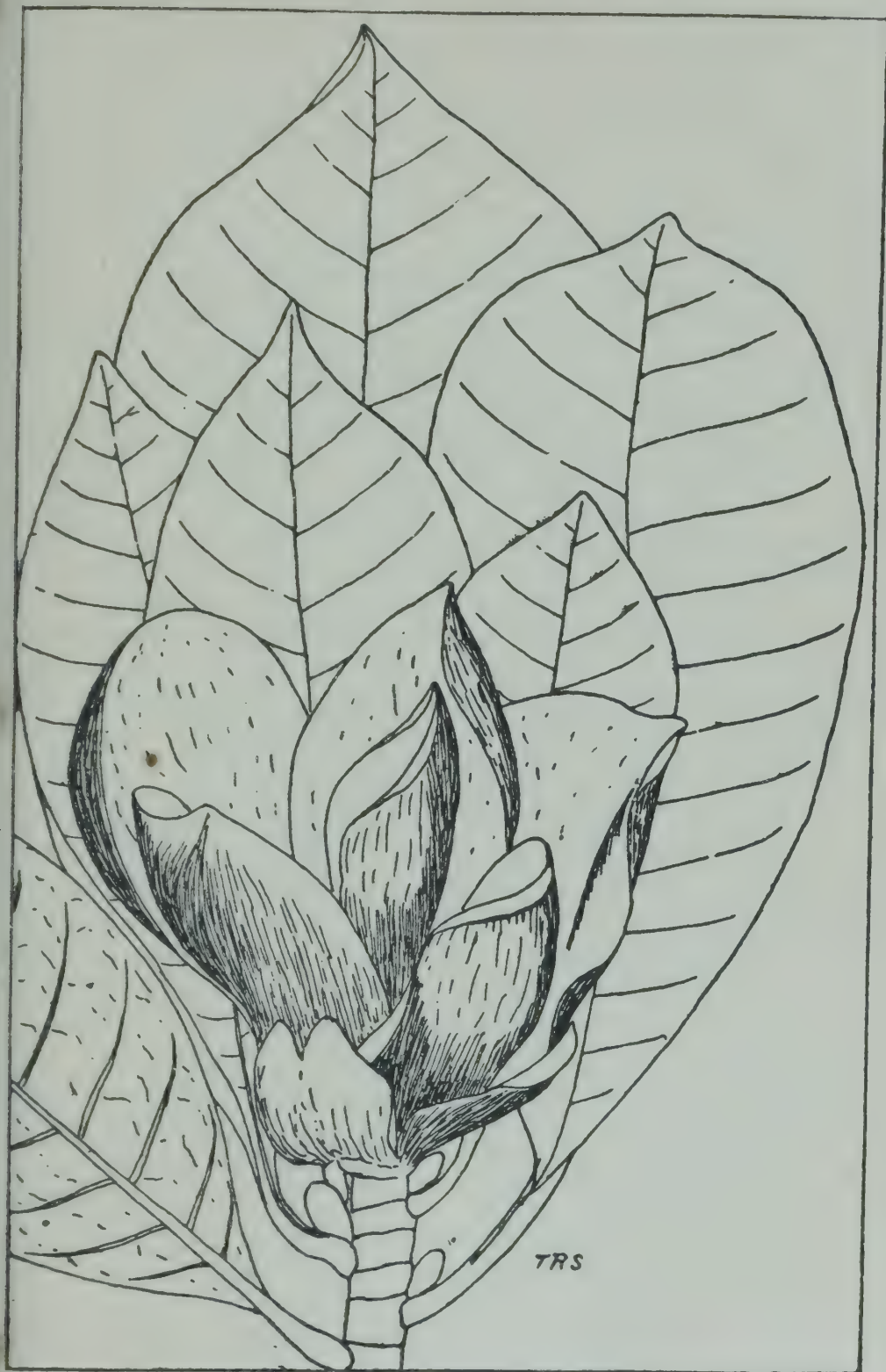


Fig. 78.—Magnolia conspicua.

M. fuscata.—A Chinese evergreen shrub 8 to 12 feet high, producing numerous small sweetly scented purplish flowers, hid away among the leaves, but scenting the whole neighbourhood. (Fig. 79).

M. glauca.—An evergreen North American tree, 15 feet high, with fairly large white fragrant flowers and the leaves glaucous on the under surface.

Magnolia grandiflora.—This is one of the finest trees in existence, either for extensive landscape effect or for use in a small town garden. It frequently attains 30 to 40 feet height, but also flowers when it is only a few feet in height. The form of the tree is pyramidal when young, with a more rounded crown when mature; it is evergreen, with large oval dark-green shining leaves, which of themselves are sufficiently attractive to give the tree a place in any garden. The flowers, however, are the main attraction; these are creamy white, cup-shaped, about six inches long and when fully expanded often nine inches across, and are powerfully scented; indeed the scent is too heavy for some people. The flowers are borne abundantly during the early summer, and less abundantly in autumn, and the effect of these immense blooms, conspicuously set singly among the dark glossy leaves is difficult to equal. On the tree each bloom lasts for a few days but when cut they seldom last more than one day, the stamens especially falling off early. The cut blooms do not carry well when packed, as bruises rapidly turn rusty.

M. grandiflora hails from Carolina and other S. Eastern States of North America; it stands frost well, but also revels in sub-tropical coast localities where it seems more happy than in the drier up-country districts. It does not stand prolonged drought well, and in such a case is apt to lose leaves and look miserable, unless abundantly watered. *M. grandiflora* is usually grown from seeds, which are not unfrequently produced in South Africa, but can also be increased by layers. The seeds do not retain vitality long, and imported seed is often a failure. This tree does best in a rich damp loam, with atmospheric conditions such as are found on the coast or in a forest, but endures a wonderful amount of abuse and very often gets it. It requires no pruning, and keeps shape so well that pruning is seldom desirable. Several named varieties are in cultivation in Europe, showing slight variations, but none of these are known to be in South Africa. (Fig. 2).

Magnolia macrophylla.—A deciduous North American tree, up to 30 feet in height, producing leaves one to three feet long and eight to ten inches wide, and very large sweetly scented white flowers, purple at the base. A very beautiful but rare species.

Magnolia obovata (= *purpurea*).—A deciduous Japanese shrub flowering in early spring before the flowers appear; the flowers are four inches long and wide, tulip-shaped, purple outside, white within, and sweetly scented. The leaves are large and obovate, of sorter texture than other Magnolian. Coppices freely and these coppice shoots strike as cuttings.

Mangifera Indica. (The Mango.)—An evergreen tender tree, cultivated for its fruit in the sub-tropical districts. Usually a flat-topped small tree, but in Tropical Africa where it is naturalised it is one of the largest forest trees. The foliage is highly ornamental, the fruit is delicious, and the flowers which are produced in large terminal panicles are not particularly showy, but are sweetly scented. There are many fruit-varieties, reproduced by grafting; the common kind is grown from seeds. It is worth a good place in any sub-tropical garden, but is useless where frost is experienced. For illustration see "The Forests of Portuguese E. Africa," (Sim). Plate 27. (Fig. 18).

Maple.—See *Acer*, various species.

Medinilla.—Tender shrubs, 4 to 8 feet high, evergreen under tropical conditions, more or less deciduous elsewhere; the leaves large and conspicuously 3-5 nerved, and the flowers rose or white in large showy terminal panicles.

M. magnifica is a lovely tender shrub, producing huge terminal panicles of rosy-pink flowers and large 3-5 nerved leaves; it is propagated by cuttings, and requires warmth and protection from wind. There are several other attractive species.

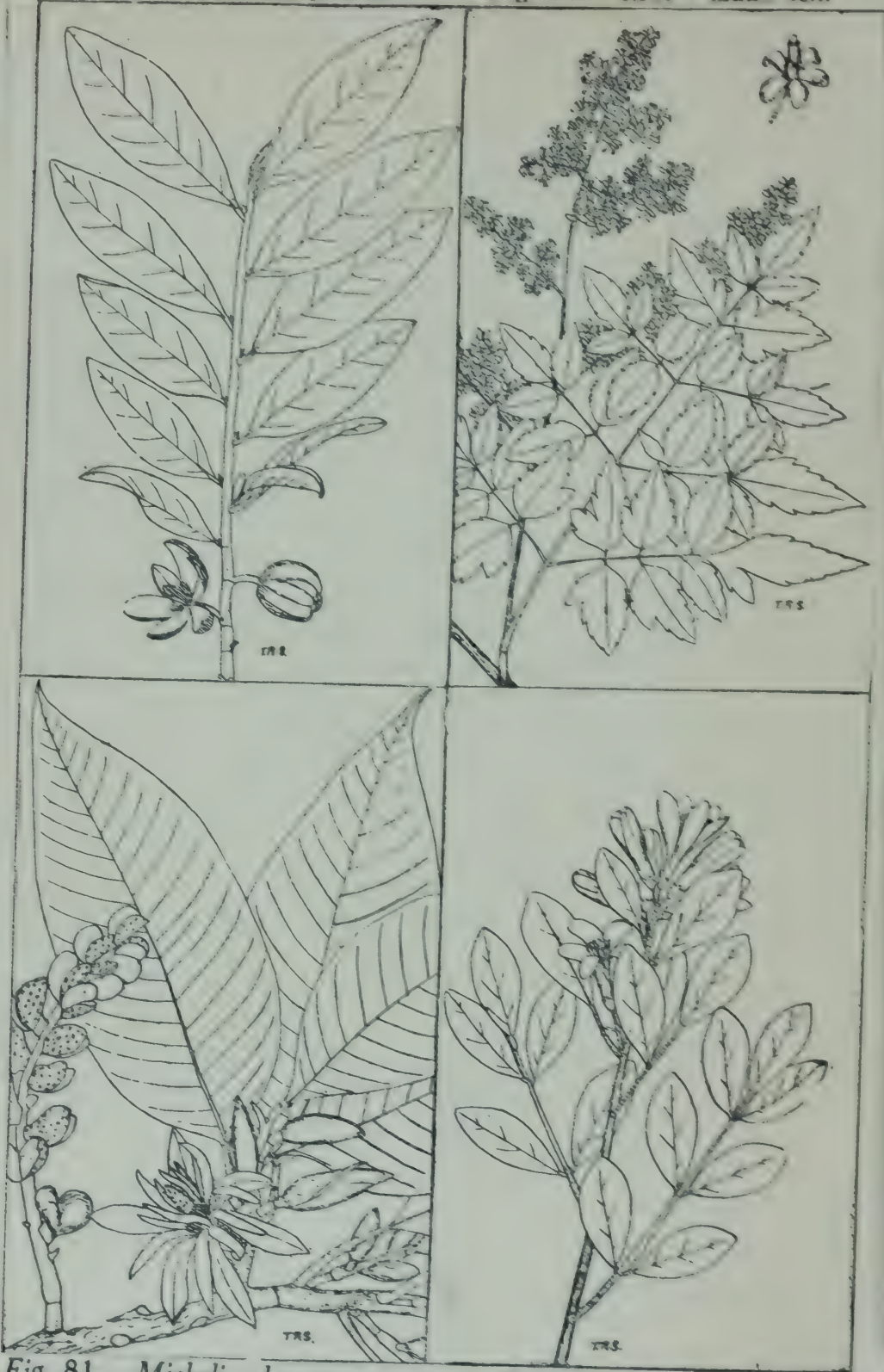
Melaleuca.—Australian hardy evergreen trees and shrubs with simple usually small leaves, and red, white or yellow flowers, axillary or in close spikes resembling *Callistemon* (Bottle brush). Propagated from seeds. There are many species worth cultivation, of which the most common are:—

M. ericifolia, a shrub with small narrow leaves and yellowish flowers.

M. hypericifolia, a shrub with opposite, decussate, elliptic-oblong leaves and scarlet flowers.

M. leucadendron (Paper-bark tree).—15 to 20 feet high, with spikes of white flowers.

Melia Azedarach.—Known in South Africa as the Syringa-tree, but quite distinct from the Genus *Syringa* (English Lilac) and also from the Wild *Seringa* of the Transvaal. An Indian deciduous tree, growing under favourable conditions to a large

Fig. 77.—*Magnolia fuscata*.Fig. 80.—*Melaleuca* sp.Fig. 81.—*Michelia champaca*.Fig. 82.—*Murraya exotica*.

size; in early spring it produces its sweetly scented lilac flowers in great abundance in large panicles, followed later by its large decom-pound leaves. Although it stands severe frost when once established, it is seldom found in the high and dry up-country districts, probably through the climate being too severe for its early stages. It deserves a place in every large garden where the climate is suitable and reproduces itself freely in the milder belt. It produces excellent white furniture-timber. (Figs. 19 and 80).

Mespilus (Medlars).—Small deciduous trees, sometimes included under *Pyrus*. These all require a moist spring season, and consequently are seldom successful as ornamental trees in South Africa though several white flowered species of some beauty are useful in cold climates.

Metrosideros.—Shrubs or trees, closely related to *Callistemon* (Bottle-brush) but with the flowers usually in terminal cymes. There are several species; one of the best is the New Zealand *M. tomentosa*, which is thickly pubescent and has crimson flowers in many flowered terminal cymes.

Michelia Champaca.—A large evergreen half-hardy Magnoliaceous shrub 8-12 feet high, or sometimes a small tree, producing in spring its yellow sweetly scented flowers, 2 inches across, in great abundance, but usually more or less hid among the leaves, with the result that the neighbourhood is laden with the scent though the flowers are not in sight. Seeds are borne at intervals on a long stalk-like receptacle. Propagated from seed. There are several other species. (Fig. 81).

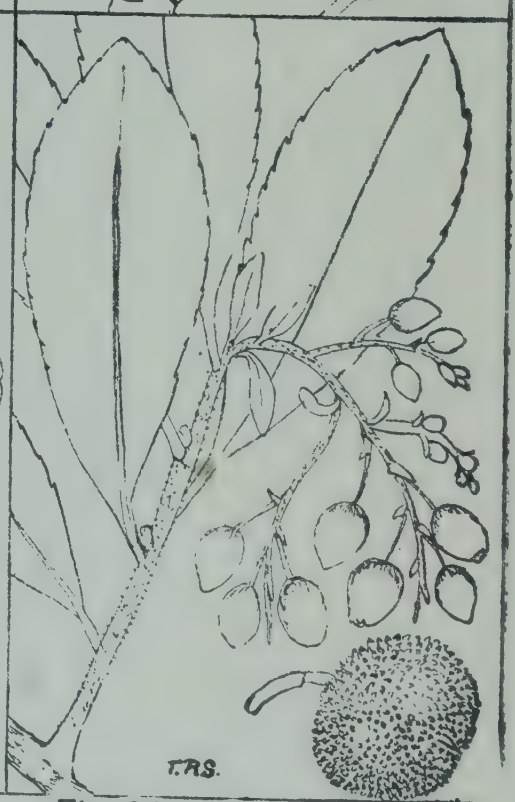
Morus (Mulberry).—Deciduous hardy small trees having inconspicuous greenish catkins, but the trees are showy when covered with their black, red, or white mulberries. Leaves simple and cordate or variously cut.

M. alba Chinese Mulberry, cultivated as food for silkworms, and also as a rough hedge, strikes easily by cuttings and usually has black or dark-red fruits, though there are pink and white fruited varieties.

M. nigra, the Black Mulberry, is usually grafted, and is much grown in irrigated Karroo gardens for its large and excellent fruits.

M. dissecta has the leaves much cut and is an ornamental tree but the fruits are small and not edible.

Muehlenbeckia platyclada = *Coccoloba platyclada*.—A shrub 4 to 6 feet high having flat branches, on the margins of which are produced (sometimes but not always) small hastate leaves; and there also occur the small pinkish white flowers and the red berries. It is a curiosity in its habit, but is frequent in cultivation. Cuttings strike easily.

Fig. 83.—*Myrtus communis*. Myrtle.Fig. 84.—*Rhapiolepis indica*.Fig. 85.—*Photinia arbutifolia*.Fig. 86.—*Arbutus unedo*.

Murraya exotica.—An evergreen Indian tender shrub, 10 to 12 feet high having pinnate dark green leaves and many-flowered peduncles of fragrant white flowers, not unlike Orange flowers. Propagated by cuttings or by seed. (Fig. 82).

Musaenda frondosa.—A very ornamental half-hardy Rubiaceous shrub from Ceylon, having small yellow flowers, but some of the calyx-lobes expand into large pure white leaflike lobes, giving the appearance of a large white flower. Propagated by cuttings.

Myoporum.—Evergreen half-hardy shrubs or trees from Australia, having simple leaves and white or pink numerous axillary small flowers followed by purplish berries. *M. insulare* has a good reputation as a sand-stay tree; it is an umbrella-topped small tree with very corky bark, pretty little dotted flowers, and rather a drooping habit which renders it useful as a lawn picnic tree. There are several other species.

Myrtus (Myrtle).—Shrubs, fairly hardy, having small evergreen leaves and much branched habit which make them excellent hedge shrubs, except that they are rather liable to scale attack. They also form beautiful lawn specimen shrubs, or may be trimmed into formal or fantastic shape. The flowers are axillary, white, freely produced, and sweet; the foliage has the well-known myrtle-scent, and the berries are purple or nearly black. There are several species, all excellent where frost or drought are not very severe. *M. communis*, is the most common, usually as a hedge shrub. Raised from seeds of cuttings. (Fig. 83).

Nandina domestica.—A shrub 3 to 6 feet high with numerous erect simple stems crowned with a tuft of leathery fern-like leaves which are excellent for table decoration. It coppices freely and makes a nice hedge. The numerous small white flowers are in a panicle, followed by scarlet berries. (Fig. 87).

Negundo aceroides. Box Elder. (= *Acer negundo*).—A small deciduous North American tree, hardy, but requiring moisture in spring to do its best. It has pleasing spring, summer and autumn tints and is a desirable tree in suitable conditions such as a lakeside or riverside or in an irrigated garden, but fails in dry land. The flowers are small and greenish, but the winged fruits are peculiar and conspicuous. Raised from seed. There is a variegated-leaved form, having pure white variegation, which is increased by budding or grafting.

Nerium.—Evergreen half-hardy shrubs or small trees easy of cultivation, and enduring many hardships, but somewhat subject to scale attack. Cuttings strike easily. There are many varieties and colours but all are placed under two species, viz.:—

N. odorum has scented flowers with the corona segments multifid: usually pale red, but has varieties *carneum* and *floraplena*.



Fig. 87.—*Nandina domestica*.

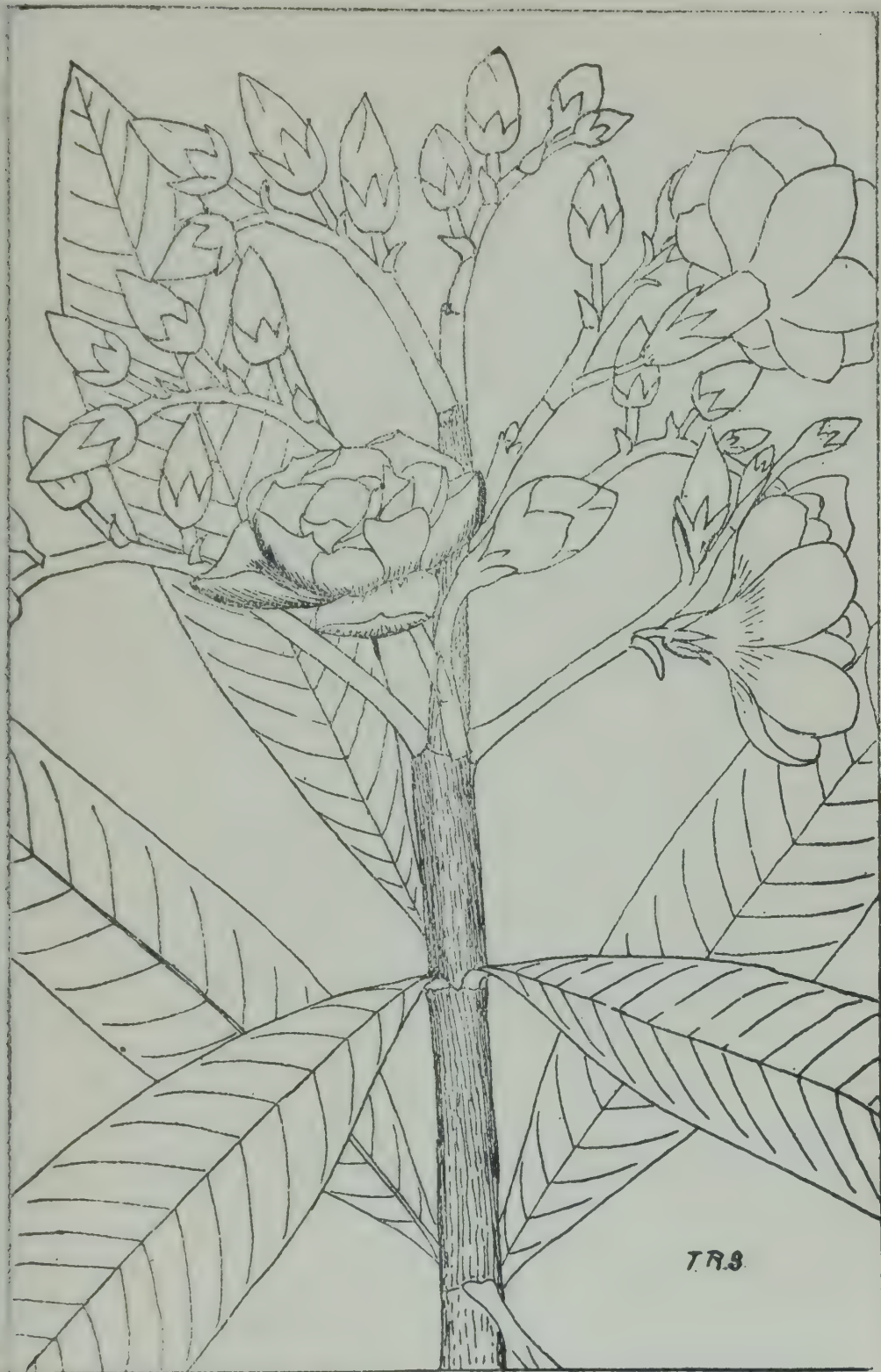


Fig. 88.—*Nerium Oleander*.

N. Oleander, known as The Oleander, and as the Ceylon Rose, has the corona-segments pointed or tripod. It has in Europe many named varieties including single forms of white, yellowish, pink, rosy and purple colours, and double forms of white, pink and purple; also *hose in hose* forms of several colours and variegated forms having the leaves edged white or yellow. All are excellent. (Fig. 88).

Orange.—See *Citrus aurantium*.

Osbeckia.—Shrubs or sub-shrubs preferring moist or swamp conditions. Several exotics are in cultivation in Europe but none of them are better than our indigenous species—which see.

Panax.—Evergreen Araliaceous tender shrubs, having small green flowers in umbels but ornamental foliage which is digitately or pinnately compound, seldom simple. Increased by cuttings or root cuttings. Excellent where frost is absent.

Paulownia imperialis.—A grand tree where it does well, which however is not everywhere. It likes deep alluvial soil in the coast or subtropical belt, in which conditions it grows rapidly to 30 or 40 feet height and produces in abundance its heart-shaped leaves 6 to 10 inches wide, and racemes 8 to 10 inches long. But in dry and arid conditions it is less luxuriant, having leaves 3 to 4 inches wide and racemes 3 to 4 inches long. It is not killed by frost but its natural habitat is evidently nearly, or quite free, of frost. The flowers are much like those of *Catalpa* in form, but not crisped, and of different colour, while the fruit in *Paulownia* is ovoid and $1\frac{1}{2}$ to 2 inches long, and very long and narrow in *Catalpa*. The flowers of *Paulownia* are usually dark lilac in colour, with beautiful markings, but forms occur with brown flowers having yellow lip; in either colour the flowers are attractive, and as many are produced in a panicle and the individual blooms are $1\frac{1}{2}$ to 2 inches long the effect is good. It is a native of Japan, and is propagated from seed. (Fig. 89).

Pavia.—Hardy or half-hardy deciduous trees, sometimes included in *Aesculus*, and having similar habit and similar digitately 5-7 parted leaves. Splendid summer-shade trees, well worth cultivation, but requiring forest climate and moist spring. Raised from seed or by grafting on Horse Chestnut.

P. alba.—North American. Flowers white in a very long raceme.

P. californica.—Flowers white or pale rose, fragrant, and covering the dense head of the tree. Usually 12 to 15 feet high, sometimes 40 feet.

P. indica.—Closely related to the Horse Chestnut and much resembling it, and equally well deserving a place in nearly frost-free forest localities. A large tree.

Fig. 89.—*Paulownia imperialis*.



Fig. 90.—*Pavetta lanceolata*.

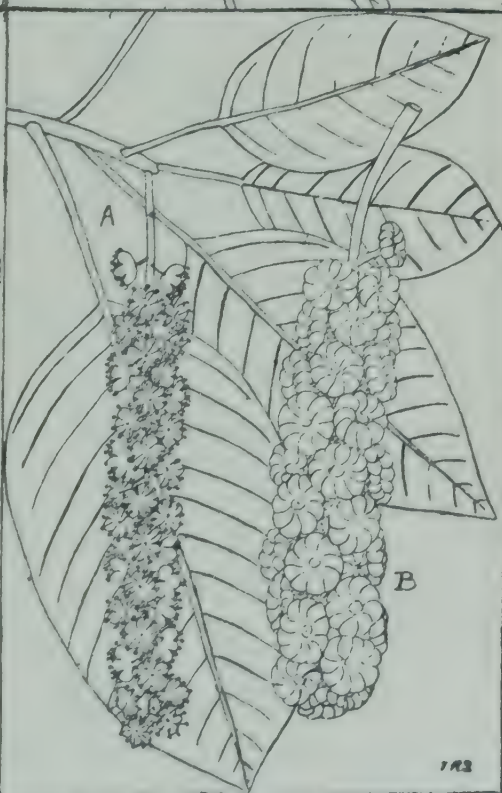


Fig. 91.—*Poinsettia pulcherrima*.

Fig. 92.—*Phytolacca dioica*.

P. flava.—Tree 20 feet. Flowers yellow.

Peach.—See *Persica vulgaris*.

Pereskea.—Succulent Cactaceous tender shrubs or climbers, increased by cuttings.

P. aculeata. (The Barbadoes Gooseberry).—A straggling thorny shrub which can be trained into an ornamental and effective hedge in localities nearly or quite free from frost.

P. portulacaefolia.—Shrubby or straggling and spinose, with solitary purple flowers. An ornamental flowering shrub if kept in form. Also used as an erect stock on which to graft weaker drooping Cacti.

Persea Gratissima (The Avocado Pear).—An evergreen tender tree 20 to 30 feet high, of good habit and quite useful in sub-tropical gardens; the flowers however are greenish and inconspicuous but the large fruits are attractive and delicious. Raised from seeds.

Persica Vulgaris. The Peach. (= *Prunus persica*).—A deciduous hardy tree, much cultivated for its fruits. The rosy-pink flowers are produced in great abundance in early spring, and for these apart from the fruit the varieties having large flowers (such as the common St. Helena seedling) are well worth a place in the ornamental shrubbery. The Double-flowered peaches are among the best of spring flowering trees, and include white, pink, crimson and a variegated pink and white flower. There are also forms with variegated and white purple leaves. All the improved varieties are increased by buds or grafts.

Persimmon.—See *Diospyros*.

Petraea volubilis (Purple Wreath).—Scandent unless kept cut into bush form, but forms a handsome bush as well as an excellent climber, its dark purple flowers in long racemes being very attractive. It is half-hardy and evergreen, and is increased by cuttings. Should be in every garden where frost is not very severe. There are several other useful species of arborescent habit which are not yet in South Africa.

Philadelphus grandiflorus Mock-Orange, or English *Syringa*.—A deciduous shrub, 6 to 8 feet in height, and producing abundant branches from the ground-level. The flowers, which are pure white and 1½ inches across are produced in great abundance either before the new leaves appear, or else along with them; consequently this is one of the most conspicuous and most popular free-flowering white spring-flowering shrubs we have, and one which deserves a place in every garden all over South Africa. It endures everything, including frost, drought, stock, fire and all other abuses, indeed the more hardship it gets the more floriferous it becomes. It is often pruned into compact bush

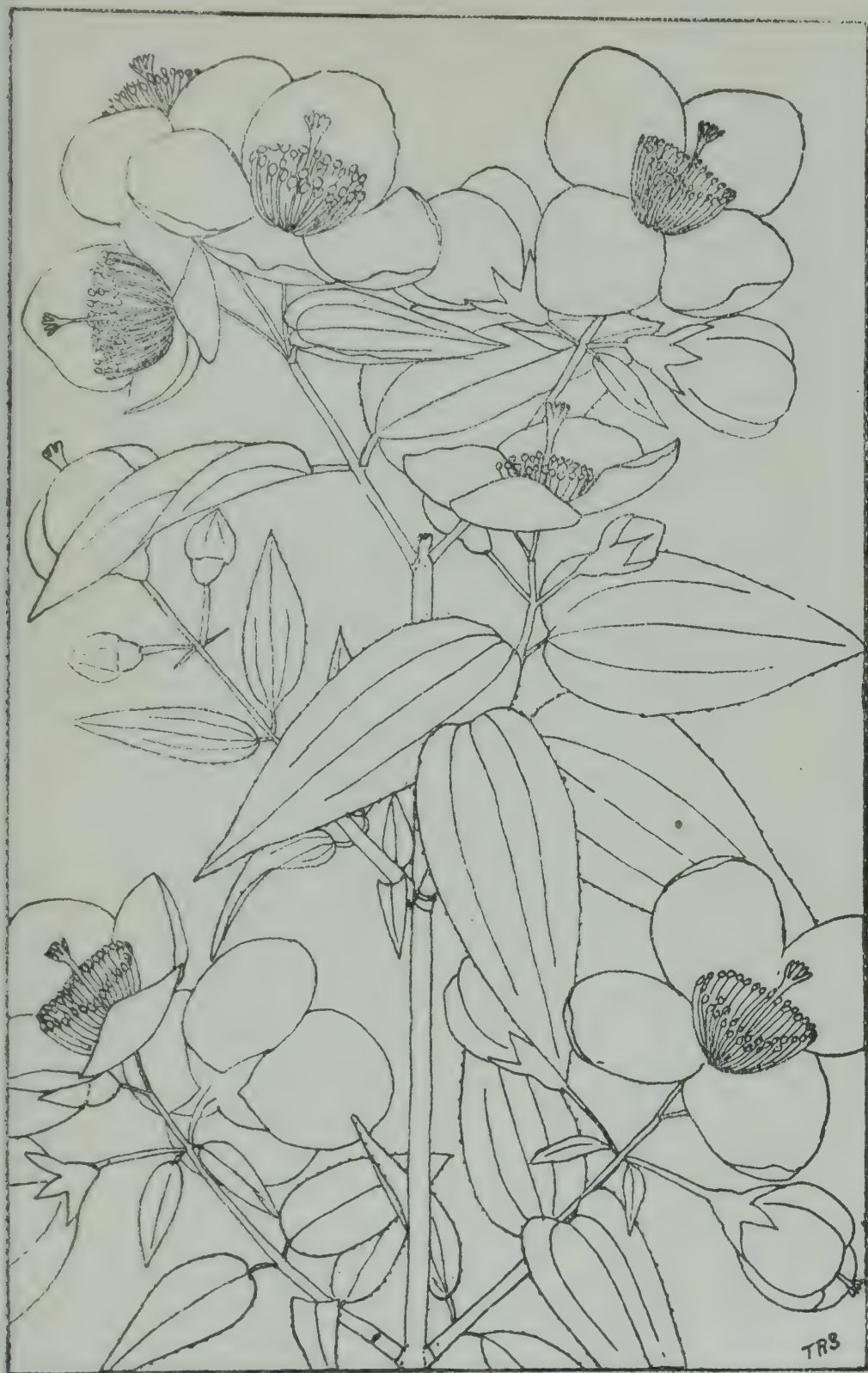


Fig. 93.—*Philiadelphus grandiflorus*.

form, but is also quite satisfactory if left unpruned. If planted a yard apart as a hedge and trimmed to about 3 or 4 feet high it gives a delightful hedge of snow in summer, for though the main flush of flowers are produced in early spring on young growth from last year's wood, still it continues to produce occasional blooms all through the summer. The flowers are sweetly scented and last well on the bush, but as cut flowers the petals are apt to drop quickly. *Philadelphus* is easily raised from cuttings, and consequently is seldom grown from seed. *P. grandiflorus* is a native of Carolina; but there are many other species of *Philadelphus* from North America, Asia, and South Europe. All have white flowers, normally of 4 petals; in most species the flowers are smaller than those of *P. grandiflorus*. (Fig. 93).

P. coronarius has a double-flowered form, and a variegated leaved form. These latter are not known to be in cultivation in South Africa but are suitable.

Photinia.—Evergreen Rosaceous trees and shrubs from India, China and California, hardy under any except the most severe conditions.

***P. arbutifolia*.**—An ornamental shrub, 4 to 8 feet high, with racemes of pinkish-white flowers; increased by cuttings or seeds. (Fig. 85).

***P. japonica* (The Loquat).**—A highly ornamental evergreen foliage tree, with large dark green leaves, panicles of small white flowers and, in early spring abundance of the large yellow edible fruits. Enjoys mild climate and abundant moisture, and grows to a large size under these conditions or in forest climate, but endures more severe conditions though less satisfactorily. Raised from seeds. Seedless and large-fruited varieties increased by grafts or buds.

***Phytolaca dioica* (The Belhambra).**—A shady tree, evergreen under mild conditions, deciduous elsewhere. The large dark green leaves resemble those of *Ficus elastica*. Dioecious, the male and female flowers greenish white, in hanging spikes. The flowers are not particularly showy but the tree is distinctly attractive and rapidly forms a large stem, with huge root-crowns. Raised from seeds. (Fig. 92).

***Pimelia*.**—Many species of beautiful trees and shrubs from New Zealand, having white, pink, red or yellow flowers in terminal capitate heads. Seldom seen in South Africa but well worth cultivation. Raised from seeds or from cuttings.

***Pittosporum*.**—Evergreen, nearly hardy shrubs or trees from Africa, Asia, Australia and New Zealand, having simple leaves and greenish or yellowish or white flowers, often scented.

Fig. 94.—*Pleroma macaranthus*.



Fig. 95.—*Platanus orientalis*.

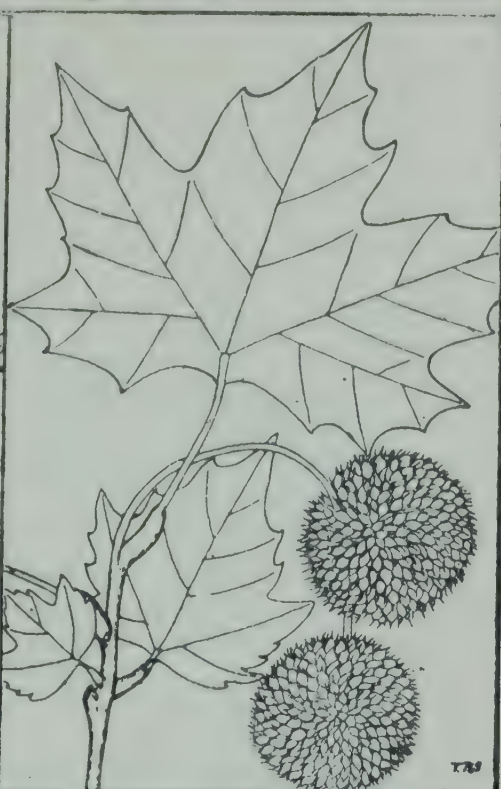


Fig. 96.—*Plumbago capensis*.



Fig. 97.—*Plumiera occulata*.

P. tobira, with leaves obovate-obtuse is a favourite plant in Paris flower market, for its umbels of white fragrant blossoms. It is a native of Japan and is in cultivation here, as also is a variegated-leaved form.

P. umbellatum.—Leaves oval-lanceolate; flowers white; this also has a variegated-leaved form.

P. undulatum.—An Australian species with greenish sweet-scented flowers, which is often used as a hedge shrub, but the leaves curl badly after insect attack. Raised from seed or cuttings.

Plantanus (Plane trees).—Highly ornamental deciduous hardy trees, 30 to 60 feet high, with beautiful dark green foliage, and with small inconspicuous flowers crowded into stalked balls. They best enjoy forest climate, and are apt to lose their leaves too early is exposed in dry country. Propagated by cuttings, or sometimes by seeds.

P. occidentalis (Buttonwood).—Leaves deeply fewlobed, fertile catkins solitary. An American tree, but does well in Pretoria and elsewhere in South Africa.

P. orientalis (The Plane tree).—Leaves normally more bluntly cut, peduncles with several balls. A splendid timber and shade tree, which does well under mild and moist conditions. Several varieties exist, including a variegated-leaved form, and one with lacinated leaves. (Fig. 95).

Pleroma (= *Lasiandra*).—Tropical shrubs, having large violet or purple flowers in terminal lax panicles and 3-7 nerved leaves. There are many species, excellent for tropical or sub-tropical gardens, and propagated by cuttings.

P. macranthum (= *Lasiandra macrantha*).—Shrub 6 to 10 ft. high with flowers rich violet-purple, 5 inches in diameter, one at a time, freely produced at the ends of the branches. Does not endure much frost, and does best in sheltered frostless localities, where it forms a superb show. (Fig. 94).

Plum.—See *Prunus*.

Plumiera.—Tropical trees or shrubs with thick succulent branches, and terminal cymes of white, yellowish or rose-purple flowers. Useless where frost is experienced but excellent on the warm Natal Coast. Propagated by strong cuttings. (Fig. 97).

P. occulata (White Frangipani).—Flowers white, or yellowish white with yellow eye; much used for wreath and bouquet-making.

P. rubra (Red Frangipani).—Like *P. occulata* but pinkish red; also much used in floral work.

Poinciana.—Evergreen or nearly evergreen trees and shrubs from East Africa, Mascarenes and India. Propagated by seeds

which require thorough soaking in nearly boiling water; or by cuttings. Leaves bipinnate.

P. Gilliesii.—Shrub, with yellow flowers.

P. pulcherrima (= *Caesalpinia pulcherrima*).—Petals orange-yellow or rarely red, filaments red; flowers in terminal pyramidal racemes. Usually a large shrub or small tree. (Fig. 99).

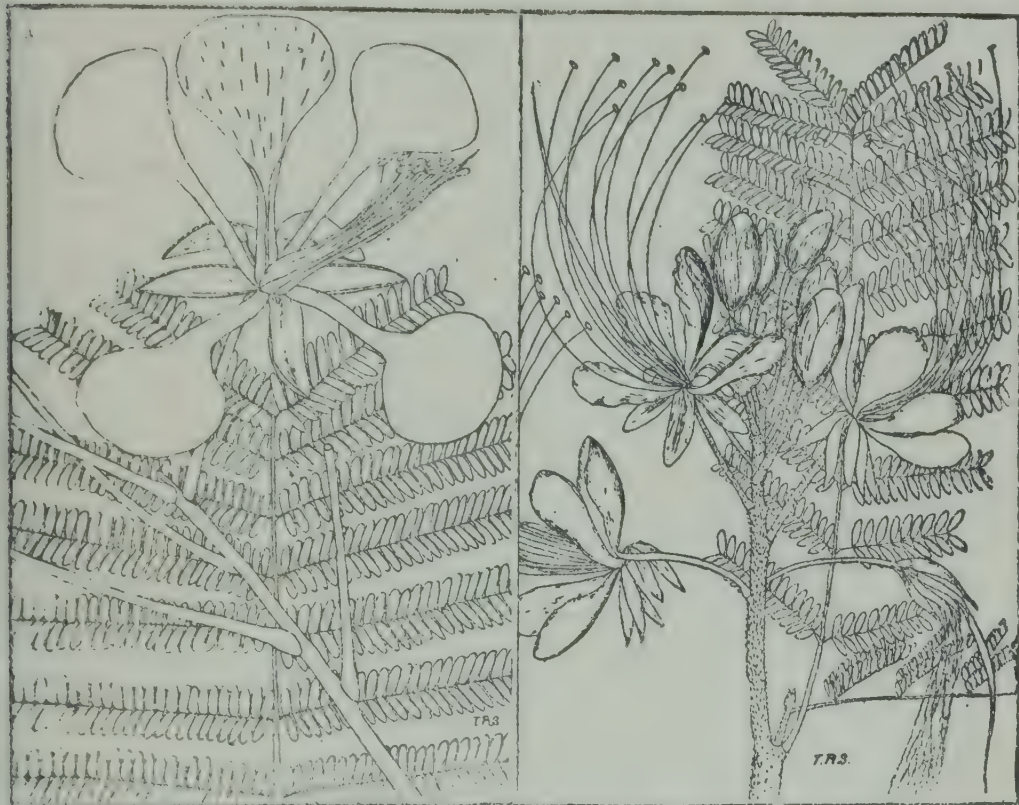


Fig. 98.—*Poinciana regia*.

Fig. 99.—*Poinciana pulcherrima*.

P. regia (Flamboyant).—A superb sub-tropical tree from Madagascar, often large, usually flat-crowned, with beautiful bipinnate leaves, loose axillary racemes of bright scarlet flowers, followed by numerous pods 18 inches long and $1\frac{1}{2}$ inches wide, which hang through the winter. One of the finest street trees, but useful only where frost is absent. Raised from seeds. (Fig. 98).

Poinsettia pulcherrima.—(Often included in *Euphorbia*). A large tender shrub, hardwooded at the base, and with softwooded annual branches which terminate in cymes of small yellow flowers the cyme surrounded by many large scarlet leaflike bracts. Easily damaged by frost, but where frost is absent its vivid colouring makes this the most showy winter shrub we have. Height 6 to 12 feet. (Fig. 91).

P. albidia has the bracts yellowish white, and this planted in with *P. pulcherrima* gives a pleasing contrast. Both are easily struck by cuttings.

P. pulcherrima flora plena is a variety with numerous additional smaller bracts.

Pomegranate. See *Punica granatum*.

Populus. Poplars. Hardy trees, usually large, some evergreen, others deciduous, all preferring moist or forestal conditions and spring rains. The flowers are catkins, usually inconspicuous, but the trees are important items in landscape gardening on account of the habit and colour of each species.

P. alba. White Poplar. A spreading large tree with whitish foliage and white stem. Inclined to sucker and prefers up-country swamps.

P. canescens. Similar to *P. alba*, but more white-canescens. Forms a large tree and is being largely used in the match factories of Cape Town and Durban. Suckers, and prefers swamps.

P. monilifera. Canadian Poplar. Large soft-wooded tree having glabrous green leaves and angled twigs. Grows rapidly, does not sucker much, and prefers moist but not wet alluvial soil.

P. nigra. Black Poplar. A large glabrous tree, with light green foliage, suckers somewhat, and prefers soil not saturated. An excellent street tree, especially the evergreen form of it.

P. nigra var. *pyramidalis* (= *P. fastigiata*). **Lombardy Poplar.** A tree of close erect habit, forming a characteristic feature in any landscape. Suckers somewhat; cuttings strike easily.

P. tremula. The Aspen. A small tree resembling a small form of *P. canescens*. Suckers somewhat; is not common in South Africa, and has little to recommend it.

Pride of India. See *Lagerstrœmia*.

Privet. See *Ligustrum*.

Prunus. Mostly deciduous hardy spring flowering trees or shrubs, having pure-white or rose-white flowers; highly ornamental while in flower, and some of them (including the common Plum) producing excellent fruits. Some strike easily as cuttings; most of them can be struck if some care is taken; root cuttings of some kinds strike easily, and all may be and usually are grafted or budded on plum, peach, almond or apricot stocks. They are mostly from Europe, North America and Eastern Asia. *Cerasus* (the Cherries) is included in *prunus* by some authors.

There are many species valuable for their free-flowering qualities, and mostly hardy under South African conditions (except where too dry), but only a few of these are widely known. Among these are:



Fig. 100.—*Punica granatum*.

P. domestica, the *Common Plum*, exceedingly pretty in its wealth of pure white flowers in early spring. The Japanese varieties suit South African conditions better than the European varieties. There is in Europe a double-flowered form and a variegated-leaved form. (Fig. 17).

P. pissardii, the *Purple-leaved Plum* is similar in habit to the last, but has dark coloured foliage and pink flowers. It is the best dark-foliaged tree in use in South Africa, suited to almost every locality, the only similar tree in colour being the Copper Beech which is only satisfactory in a few places. This plum strikes easily, it endures all frost, and it makes a tree 10 to 20 feet high. The fruit is edible but not of high quality.

P. sinensis flora plena is much used in Europe for forcing for spring flowers, and is easily struck from cuttings. (Fig. 42).

P. triloba, flowers white or rose, generally double, flowering before the leaves appear.

Psidium. The various *Guavas*. Evergreen or deciduous half-hardy shrubs or trees, producing in abundance large white myrtaceous flowers, and having commercial edible fruits. In the sub-tropical belt they are often grown as fruit trees but deserve a place on account of their flowers and foliage also. There are many species, only a few of which are as yet well known here. They are easily raised from seeds, and one species is more or less naturalised along the coast.

Punica granatum. The *Pomegranate*. A deciduous hardy small tree, having shining simple leaves, large scarlet flowers, and large highly ornamental fruits, often bright red in colour. Strikes easily and clips into form well, and its twiggy habit makes it an excellent hedge tree, well kept hedges of it being very pretty from the foliage effect alone. But when allowed to grow up into a tree of 10 to 20 feet height the bright flowers are unique in their colour, and freely produced. There is also a double-flowered variety and a yellowish-white flowered variety. As ornamental shrubs or trees all are well worth cultivation and very hardy. (Fig. 100).

Pyrostegia venusta. See *Bignonia venusta*.

Pyrus. Deciduous hardy shrubs or trees, easily grown, free flowering, with effective white, rosy-white, cream, rosy-red or bright red flowers, and usually attractive fruits, some of which, including the apple and pear, are among the best known fruits of commerce, while in the Rowan and Service-berry, as also in the various Crabapples, the high colouring of the fruit gives the tree a horticultural scenic value. Species are propagated by seeds; varieties usually by grafts, buds, or in some cases root-cuttings.



Fig. 101.—Rhododendron Pink Pearl.



Fig. 102.—Rhododendron.

P. aucuparia. The *Mountain Ash* of Europe, or *Rowan*. A hardy deciduous tree producing corymbs of white flowers, followed by bright scarlet berries. Would probably enjoy the higher mountain localities, sometimes snowclad, but seldom seen in South Africa. The berries are very effective.

P. communis. The *Pear*. A beautiful foliage tree, and in the irrigated Karroo towns such as Cradock and Victoria West it is one of the best street trees. The *Sand Pears* which are hardly deciduous in the milder climates are even more effective in leaf-effect, but usually have a very erect habit.

P. domestica. The *Service-berry*. Seldom seen in South Africa.

P. japonica. See *Cydonia Japonica*, the *Scarlet Quince*.

P. malus. The *Crab-Apple*. This occurs in many forms, having small very brightly coloured fruits as well as effective apple-blossom which make it well worth a place as an ornamental tree. Usually grafted or budded.

P. Maulei. A very free-flowering shrub with scarlet flowers in axillary clusters; closely related to *Cydonia japonica*. There are many other species of horticultural merit, not yet grown here.

Quercus. The *Oaks*. Evergreen or deciduous large hardy trees. Flowers inconspicuous, male catkins yellowish. They mostly belong to the Northern hemisphere and are usually raised from seeds, but can be increased by grafting, including even the evergreen species upon deciduous species. The following are in use here:—

Q. cerris. The *Turkey Oak*. Leaves sinuate-toothed or pinnatifid.

Q. coccinea. The *Scarlet Oak*. Deciduous, the leaves large, turning scarlet in autumn. A very beautiful large tree.

Q. ilex. The *Holm Oak*, or *Evergreen Oak*. A fine umbrageous evergreen tree, which succeeds even in the fairly dry districts.

Q. pedunculata. *Common Oak*. Deciduous, a large tree, doing well where on deep alluvial soil usually moist but not wet. Subject to fungoid trouble, and also to caterpillars and seldom so satisfactory here as in Europe. Does best in the colder districts and badly in the sub-tropical coast belt.

Q. rubra. The *Champion Oak* or *Red Oak* of North America. Very similar to the Common Oak but the leaves are of a pink colour in spring, and turn dark after frost in autumn.

Q. suber. The *Cork Oak*. A large evergreen tree producing the corks of commerce as its bark. Well worth growing.

Quince. See *Cydonia*.

Reinwardtia trigynum (= *Linum trigynum*). An evergreen half hardy shrub from the East Indies, flowering very freely through winter and spring as well as more or less throughout the season, its bright yellow flowers $1\frac{1}{2}$ inches across being quite attractive. It endures only slight frosts, suckers somewhat, and is easily propagated from the suckers or from cuttings. (Fig. 104).

Rhapiolepis indica. An evergreen, nearly hardy shrub, from Eastern Asia, 4 to 6 feet high, producing numerous small white or pinkish flowers. Increased by cuttings. There are several other somewhat similar species. (Fig. 84).

Rhododendron. Very beautiful hardy shrubs, mostly himalayan, and mostly evergreen, though botanically there is no good division between *Rhododendron* and *Azalea*, and some of the *Azaleas* are deciduous. There are over 100 species of *Rhododendron* (apart from *Azalea*) and very many hybrids and sports. The species are reproduced by seeds, cuttings, layers, buds and grafts; the varieties mostly by buds and grafts.

Rhododendron ponticum is the most common species here, and in Europe it is one of the parents of many hybrids. *Rhododendrons* require cool forest conditions but abundant light, and most of them do best on humus or shingle, devoid of lime. Consequently they are successful in only a few localities. They stand frost, but cannot endure sub-tropical conditions or dry hot winds. (Figs. 13, 101 and 102).

Rhus. Deciduous or evergreen hardy or half hardy shrubs or trees, varying considerably in leafage and appearance, but almost all having rather inconspicuous flowers. Leaves 1-foliate, 3-foliate, or pinnate. All are raised from seeds. There are many indigenous species, but also several exotics are in cultivation among which are:—

R. cotinus. A shrub 6 to 8 feet high with simple roundish leaves and loose feathery panicles.

R. glabra. A tree, with pinnate leaves having 15 to 21 serrate leaflets; female panicle reddish.

R. vernicifera. A tree, with pinnate leaves, with about 11 entire leaflets.

Ribes. Hardy deciduous shrubs 4 to 6 feet high, including the Gooseberry and the Currants and also the following flowering species. All are increased by cuttings of ripe wood, and all require cool forest conditions and light shade.

R. sanguineum. *Flowering Currant*. Flowers deep rose colour, in drooping racemes. Rare in South Africa.

R. aureum. Flowers yellow, axillary, few.

Robinia. Hardy deciduous trees, raised by seeds or suckers, or in some cases by grafts.

R. pseudacacia. A fairly large, hardy, deciduous tree, having in early summer large pendulous racemes of white flowers. Does well even in Karroo towns, Bloemfontein, etc., and makes a timber tree yielding durable black heartwood useful for posts, etc. Suckers rather freely. There are pink and drooping forms. There are also several other closely related species and hybrids, trees or shrubs, white, pink or red flowered, which are propagated by seeds, buds or grafts, and most of which have not been seen here yet. (Fig. 103).

Rondeletia. Very pretty tender evergreen Rubiaceous shrubs or trees from the West Indies and Tropical America. Flowers

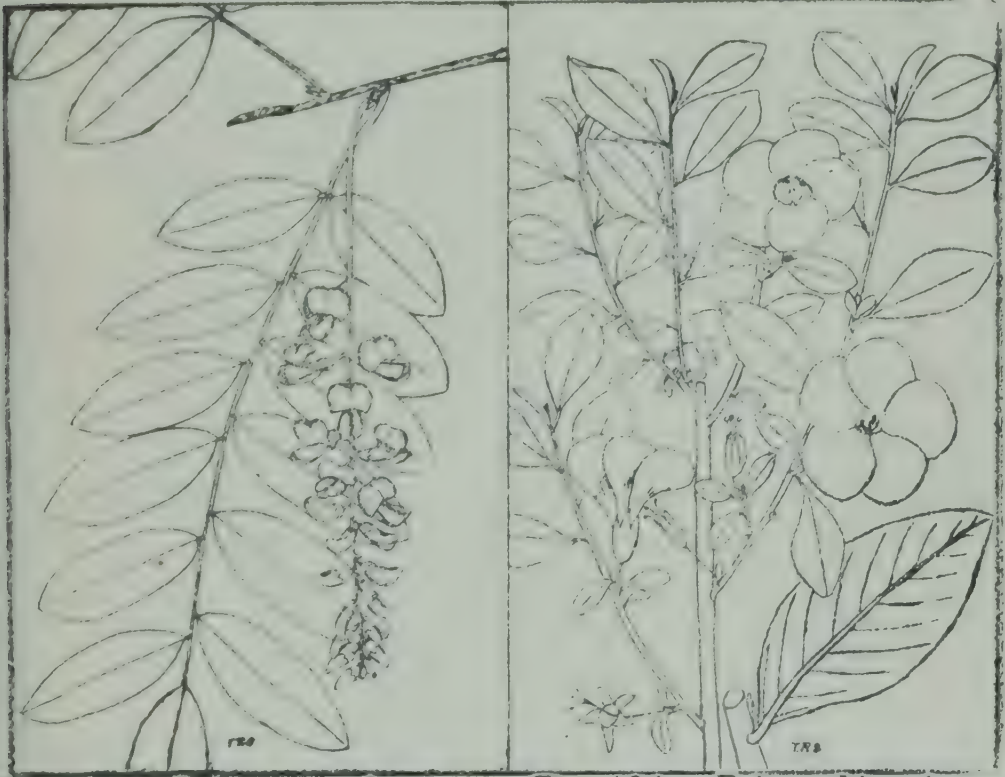


Fig. 103.—*Robinia pseudacacia*. Fig. 104.—*Reinwardtia trigyna*.

white, yellow or red in axillary or terminal cymes. Some are scented. Scarce in South Africa, and known to be present only on the Natal coast, where *R. odorata* (= *R. speciosa*) a shrub 3 feet high, having vermillion fragrant flowers in terminal compound corymbs is in cultivation. Strike from cuttings.

Rosa. Roses. Hardy evergreen or deciduous shrubs or climbers with imparipinnate leaves and prickly or unarmed branches, all pretty and all worth cultivation; so many are hybrids or sports that the pedigree is now often difficult to ascertain. Most of them can be increased by cuttings but in ordinary nursery practice it is more common to increase them by buds, not because budded plants are better (which they seldom are, while they

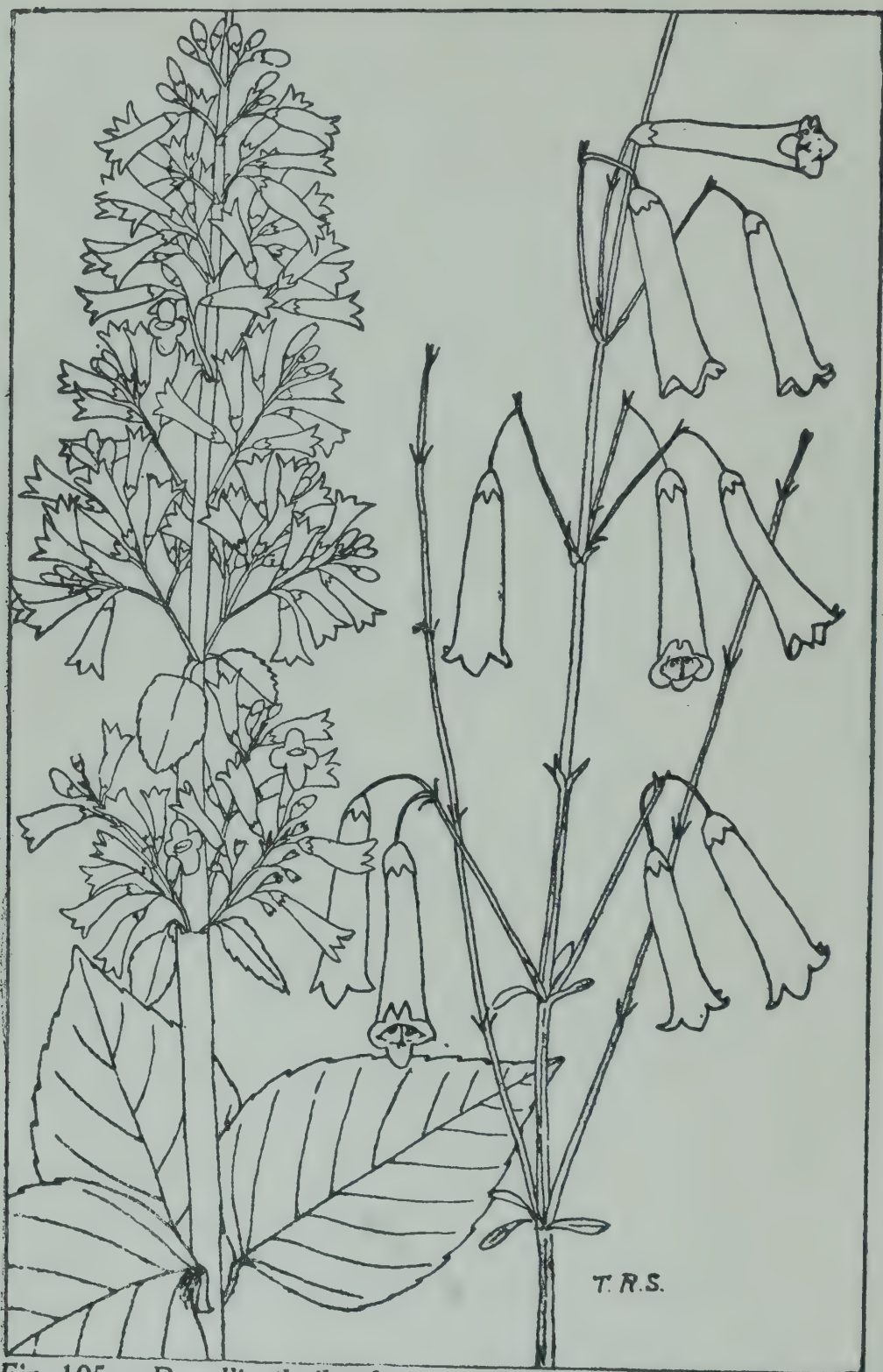


Fig. 105.—*Russellia floribunda*.

Fig. 106.—*Russellia juncea*.

are always subject to go wrong from the growth of buds from the stock) but because they can be raised at less cost in this way than on their own roots, some very easily rooted kinds being used as the stocks.

Among the original species which can still be identified are:—

R. centifolia. *The Cabbage Rose*, parent of very many garden roses.

R. centifolia muscosa. *The Moss Rose*.

R. Banksiae. *The Banksian Rose*. White and yellow, ever-green, unarmed.

R. bracteata. *MacCartney Rose*. China. (Fig. 5).

R. indica. *The China Rose* and its varieties, including the *Noisette Roses*.

R. damascena. *The Damask Rose* and its many garden kinds.

R. canina. *The Dog Rose* and its many varieties.

R. multiflora. *The Multiflora Roses*.

R. rubiginosa. *The Sweet Briar* of Europe.

R. rugosa. Fruit large, deep red, and showy, Japan.

Groups of hybrids or sport varieties derived from among these include:—

Hybrid-Perpetual Roses, mostly flowering well only during spring but including many excellent roses.

Tea Roses. Constant bloomers, or with succession flushes of bloom throughout the year.

Hybrid Tea Roses. Frequent flowerers.

Noisette Roses. Flowers usually in loose corymbs.

Pompon Roses. Dwarf habit and small numerous flowers.

Moss Roses. These flower on the end of the last year's wood so should not be pruned till after flowering.

Multiflora Roses. Free-flowering ramblers.

Hybrid China Roses. Continuous flowerers.

Banksian Roses. Flower in spring only.

There are also species and hybrids and sports which do not fit into any of these groups.

A green rose with all its floral parts transformed into green bracts is not uncommon in cultivation here as a curiosity.

As each species and each group mentioned above as also many individual varieties, has its own peculiarities of growth, habit, flowering, etc., no general rules of pruning, training, or cultivation apply to all, and as the Roses as a whole have formed the subject of many separate books where each is treated in detail further comment here would be superfluous.

Rubus. Many garden shrubs including Raspas, Blackberries, Dewberries, etc.

R. rosaeiflorus. A vigorous free-flowering shrub 3 feet high, producing pure white double flowers like small roses. Its one objectionable point is that it suckers freely.

Ruellia.—Herbs or shrubs, mostly evergreen, and mostly American, having blue, purple, crimson or rose coloured flowers; easily struck by cuttings.

R. macrantha.—A tender shrub with large flowers of rosy-purple colour, not unlike Azalea flowers.

R. speciosa.—A shrub with scarlet flowers.

There are many other species, mostly tender.

Russelia.—Evergreen half-hardy or tender small shrubs with bright scarlet flowers; easily struck from cuttings. They enjoy sub-tropical conditions best.

R. juncea.—A shrub 4 to 10 feet high with twiggy rushlike pendulous branches, linear leaves, and flowers scarlet in loose racemes. (Fig. 106).

R. floribunda. Erect, with ovate leaves and terminal panicles. (Fig. 105).

R. sarmentosa = *R. multiflora*; most erect, very free-flowering.

Salix. Willow, Osier, Sallow, etc.—Usually deciduous hardy trees and shrubs, enjoying moist or riverside conditions best, and having the flowers in sessile dense yellow catkins, very conspicuous in some species. All easily raised by cuttings; usually difficult to raise from the woolly seeds. There are very many species, among which the best known here are:—

S. babylonica. *The Weeping Willow*. A large tree having long weak pendulous twigs. Usually found along riverbanks or where underground water is present.

S. caprea. *Common Sallow*. A large shrub or small tree, much used in basket work. The catkin-bearing branches are used, under the name 'Palm branches' for church decoration, etc., on palm Sunday.

S. purpurea.—A shrub with purplish twigs, used as a basket Osier.

S. rubra.—A shrub with red twigs, used as a basket Osier.

S. viminalis.—A shrub or small tree; the most common Osier. There are three South African riverside species.

Salvia. Soft-wooded and usually tender shrubs, or herbs, showing much diversity among themselves, together with generic similarity; All easily increased by cuttings, some easily raised from seeds, and the herbaceous kinds by crown-division.

S. involucrata.—Tender shrub 4 to 8 feet high, flowering in winter and spring; calyx coloured, corolla rosy, floral leaves sessile, bractlike, broadly ovate-acuminate, coloured.

Fig. 107.—*Salvia Bethelli*.



Fig. 108.—*Schinus molle*.

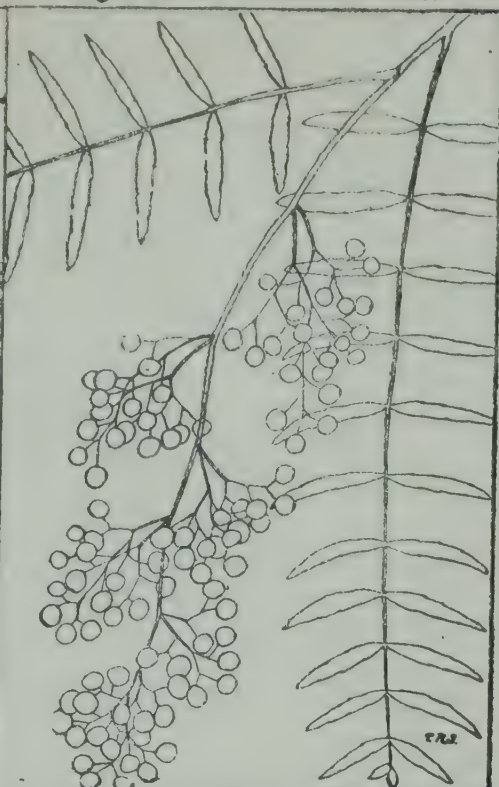


Fig. 109.—*Sterculia diversifolia*. Fig. 110.—*Syringa vulgaris*.

S. involucrata, var. *Bethellii* (= *S. Bethellii*).—Flowers rosy-crimson in large whorled spikes terminating the branches, each whorl of buds surrounded by a pair of large coloured bracts, and the calyces also coloured. (Fig. 107).

S. involucrata, var. *Van Houttei*.—A vigorous select form of *S. involucrata*.

S. splendens.—One of the brightest soft-shrubs of frostless regions or can be treated as a summer annual, flowering freely when a few months old. The type is deep scarlet but there are many other varieties of this species.

There are also other tender soft-wooded species mostly shades of blue or purple, all useful.

Sambucus.—Vigorous hardy deciduous trees and shrubs, having large umbel-like corymbs of white flowers, followed by purple or black berries. Cuttings strike easily.

S. nigra. *The Elder-berry*.—A vigorous shrub, used as a rough hedge in Europe, and its fruit is fermented into a wine. Frequent here as bushes, but not seen as a hedge though vigorous enough for that.

S. nigra, var. *aurea*. *Golden Elder*.—Leaves margined or blotched with golden yellow, vigorous and very effective, but apt to revert to green.

There are several other species.

Scarlet Maple.—See *Acer rubrum*.

Schinus.—Small evergreen trees, having panicles of small greenish flowers, followed by abundant rose-scarlet fruits about the size of small peas, which are the main attraction of these kinds. Easily raised from seeds, which are freely produced, but subject to fungus trouble wherever the climate is moist. Difficult to transplant except in early stages or from tins, and liable to die when young.

S. molle. *The Pepper Tree*.—A small to fairly large South American tree having pendulous twigs which are laden with the rose-coloured berries for a long time. Flowers inconspicuous. Enjoys hot, dry, sunny situations, and light frosts, but mildews badly in humid heat. (Fig. 108).

S. terebenthifolius.—A large North African evergreen shrub, covered for months with scarlet berries. Lives through light frosts but does best in frostless or coast localities where it is well worth a place.

Scutellaria mociniana.—A softwooded tender shrub, usually small, and often nearly leafless, but producing large terminal spikes of rose-coloured or scarlet flowers.

Skimmia Japonica.—A glabrous evergreen tender shrub from east Asia, having numerous small white flowers in terminal panicles, followed by bright red berries which make it attractive. Strikes from cuttings.



Fig. 111.—*Spathodea speciosa*.

S. japonica argentea variegata.—Like the type, but leaves margined white.

There are various other species of similar habit.

Sophora.—Evergreen or deciduous hardy, half-hardy or tender Leguminous trees or shrubs, of ornamental habit, foliage and flower. All propagated by seed soaked for a day in hot water immediately prior to sowing.

S. chrysophylla.—A deciduous shrub having the young leaves yellow-pubescent and the flowers yellow in axillary short spikes.

S. japonica. Umbrella Tree.—A deciduous hardy Japanese tree, usually small, and with pendulous twigs from which it derives the name Umbrella tree. Flowers white in pendulous racemes.

S. tomentosa.—A maritime silvery white shrub with bright yellow flowers in many flowered terminal racemes. A decided acquisition on subtropical sanddune gardens. Native along the coast of Portuguese East Africa. See Sim. Forest Flora of Portuguese East Africa, p. 31, plate 51.

Spartium junceum.—Spanish Broom. An almost leafless freeflowering virgate hardy shrub 4 to 6 feet high, sometimes used as a rough hedge but better as a single bush. Easily raised from seeds soaked a day in hot water, and usually short lived, i.e. 3 to 5 years.

Spathodea.—Bignoniaceous tender deciduous trees and shrubs of great beauty, easily raised from seeds.

S. alba.—A small tree indigenous in Portuguese East Africa; raceme terminal, 2 feet long, many flowered, few open at a time, 2 inches across, white, strongly scented. See Forest Flora of Portuguese East Africa, (Sim) plate 75.

S. speciosa.—Deciduous tender tree. Flowers tubular, scarlet; margin crisped and bordered with yellow. Unopened flowers much wrinkled. A very conspicuous tree in Durban. (Fig. 111).

S. Rheedii.—(= *Dolichandrone Rheedii*). A small tree having large white flowers borne in profusion on the stem and branches.

Spiraea.—Shrubs, subshrubs or herbs, mostly deciduous, and mostly from cold climates. The shrubs are easily propagated by cutting or in some cases by suckers or crown-divisions. Flowers white, yellowish, pink or red, usually attractive. There are many species, the following are some of the best

S. ariaefolia.—Shrub 4 feet high with short wide leaves and axillary corymbs of white flowers. An excellent hedge or specimen shrub, spring flowering, usually single. (Fig. 113).

S. aruncus.—A herbaceous perennial or soft shrub 4 ft high with pinnate leaves and terminal white panicles. Many varieties.

S. cantoniensis. (= *S. Reevesiana*). Hardy evergreen shrub, 3 to 4 feet high, from Japan and China. Leaves small, simple, lanceolate—3-lobed, deeply toothed. Flowers white and showy in

Fig. 112.—*Spirea salicifolia*.



Fig. 113.—*Spiraea ariaefolia*.

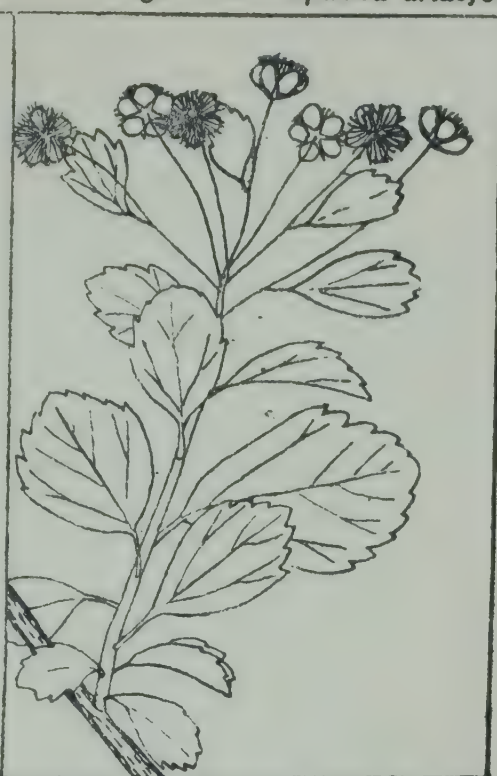


Fig. 114.—*Spiraea prunifolia* fl. pl.

terminal umbels. There is a double variety of it and several other varieties.

S. prunifolia. "Cape May." Deciduous shrub 3 to 5 feet high, from China and Japan. Leaves glabrous, cuneate at the base and irregularly serrated in the upper half. Flowers white, in axillary umbels. This and its double form are both in common use as hedge shrubs. They strike easily and transplant best when leafless during winter. (Fig. 114).

S. salicifolia. Deciduous stoloniferous shrub 3 to 5 feet high with slender twigs, small lanceolate glabrous leaves, and the small axillary flowers very numerous, white, rosy or pink. (Fig. 112).

S. tomentosa. Deciduous shrub 3 feet high, apt to sucker, having ovate-lanceolate serrated leaves woolly on the under surface, and terminal inflorescence of rose-coloured flowers in short racemes forming a compact panicle. Hardy and free-flowering.

S. japonica. *Red May*. Shrub 4 to 6 feet high, with red or rosy flowers in flat terminal corymbs; leaves simple, lanceolate, acute, serrate. There are many varieties, of which the best-known is 'Anthony Waterer.' (Fig. 141.) (This must not be confused with the herbaceous *Astilbe japonica* which is often catalogued as *Spiraea japonica*).

Stenocarpus. Evergreen Proteaceous Australian trees having entire or pinnately lobed leaves and axillary or terminal umbels of red, white or yellow flowers. Grown from seed.

S. sinuatus. The Fire-tree or Tulip-tree of Queensland is a large timber tree having terminal 12- to 20-flowered umbels or racemes of bright-red showy flowers. It is in the Botanic Garden, Durban.

Stenolobium.—See *Tecoma*.

Sterculia. Half-hardy trees, evergreen or deciduous, easily raised from seeds.

S. acerifolia = *Brachychiton acerifolium*). The Flame-tree. A tree 60 to 100 feet high, usually evergreen or hardly deciduous, producing in abundance large loose terminal panicles of bright-red or rosy-crimson bellflowers, which render it a most striking garden ornament. Leaves variable. (Fig. 115).

S. diversifolia (= *Brachychiton diversifolium*). The Kerri-jong or Bottle Tree of Victoria. An evergreen tree 20 to 60 feet high, rapidly forming a large bole, and having terminal panicles of bellflowers greenish outside and dotted red inside. Leaves very variable. (Fig. 109).

S. platanifolia. A deciduous tree from China with leaves often a foot across, inconspicuous flowers, and curious pod-like capsules. A grotesque tree, worth a place in a collection. There are also several South African species.

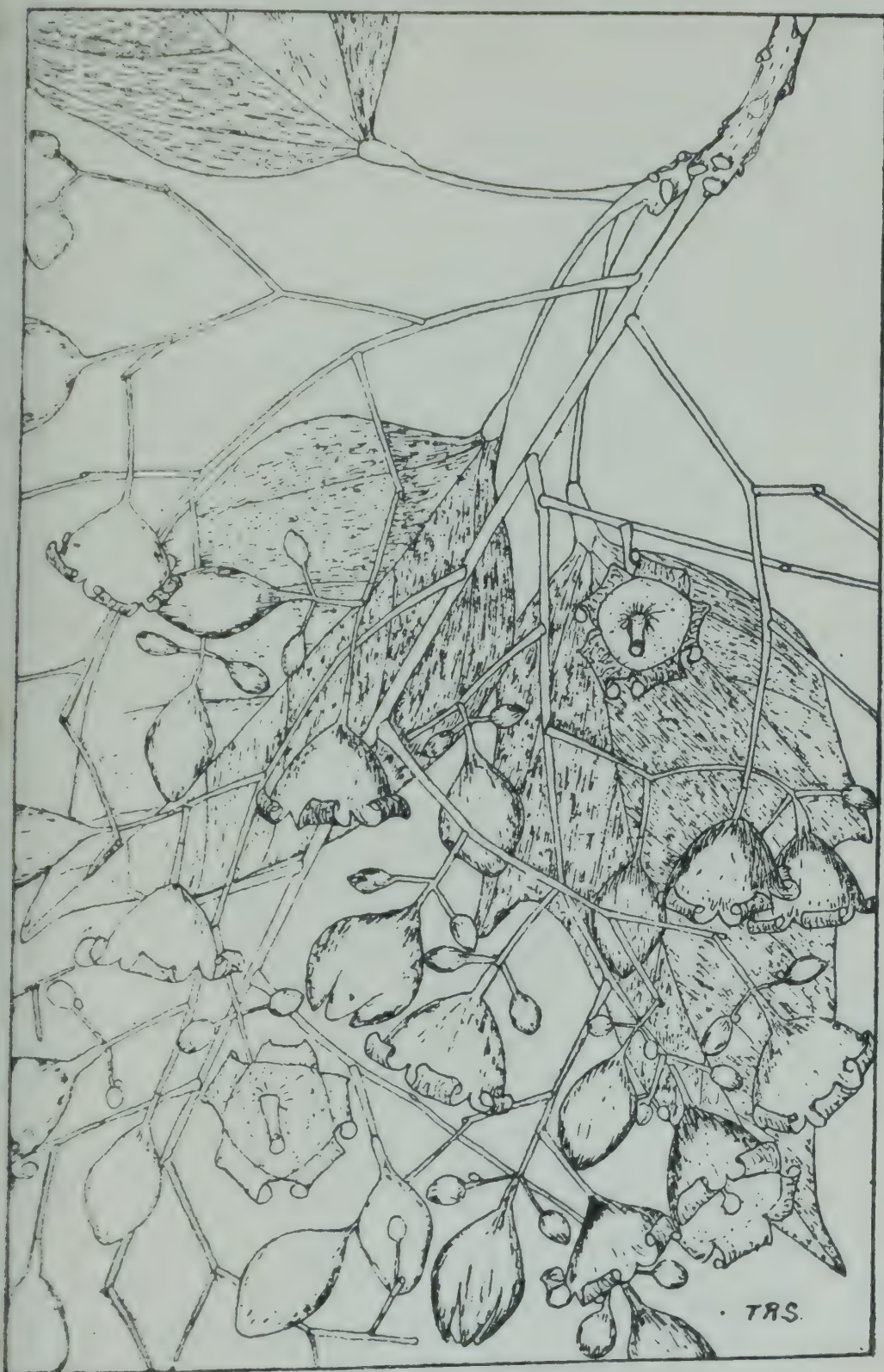


Fig. 115.—*Sterculia acerifolia*.

Strawberry-tree = *Arbutus unedo*.

Streptosolen Jamesonii. A tender straggling shrub or creeper having beautiful orange-coloured Solanaceous flowers in terminal corymbose panicles. Does not stand frost. Easily struck by cuttings.

Swainsonia. Free-flowering, half-hardy, shrubby-herbaceous Australian Leguminous plants, 3 feet high, having pinnate leaves and axillary racemes of flowers which are white, yellowish, red and purple in the different species or varieties. Raised by seeds or cuttings.

Sycamore-tree = *Acer pseudo-platanus*.

Symphoricarpus. Deciduous hardy North American shrubs having opposite leaves, small white or rose flowers in axillary racemes, and persistent berries. Raised by cuttings or seeds.

S. racemosus has white berries, half-inch diameter, which give it a horticultural interest.

S. vulgaris has smaller red berries, and has a variegated-leaved form.

Syringa tree = *Melia azaderach*.

Syringa. English Lilac. Deciduous hardy shrubs with opposite simple leaves and terminal panicles of lilac, red or white, single or double sweetly scented flowers. Inclined to sucker, and does better if the suckers are removed. The common Lilac, *S. vulgaris*, is easily raised from seeds, and likes cool, moist conditions. There are several other species also largely grown in Europe, besides various hybrids, single and double. All are largely used in Europe for forcing under glass for spring flowering, and the improved varieties are mostly raised by grafting upon the common form. The Lilac does not do well in sub-tropical conditions. (Fig. 110). This must not be confused with the *Syringa-tree* (*Melia*).

Tabebuia. Trees or shrubs with handsome racemose or cymose flowers; leaves opposite 1 or 3 or digitately 5-7 foliate. They were formerly included in *Bignonia* and *Tecoma*.

T. spectabilis. Flowers 3 inch long, purple, in short racemes. West Indies.

T. triphylla. Flowers white. It is from S. America, and is growing in the Botanic Garden, Durban.

Tabernaemontana. Tender evergreen trees or shrubs, all having white or yellowish-white showy and usually scented flowers. There are several exotic species cultivated in other countries but the only one cultivated here is *T. coronaria* *flora plena*, a tender shrub up to 4 feet high with yellowish-white double flower, resembling a double *Gardenia*. Strikes from cuttings. (Fig. 116).

Tamarindus indica. The Tamarind. A large dense ever-green unarmed tender tree, with numerous small abruptly pinnate dark green leaves, paniced racemes of yellowish flowers, and edible pods. A good sub-tropical or tropical shade tree. (See "Forest Flora of Portuguese East Africa," plate 47.) Raised from seeds.

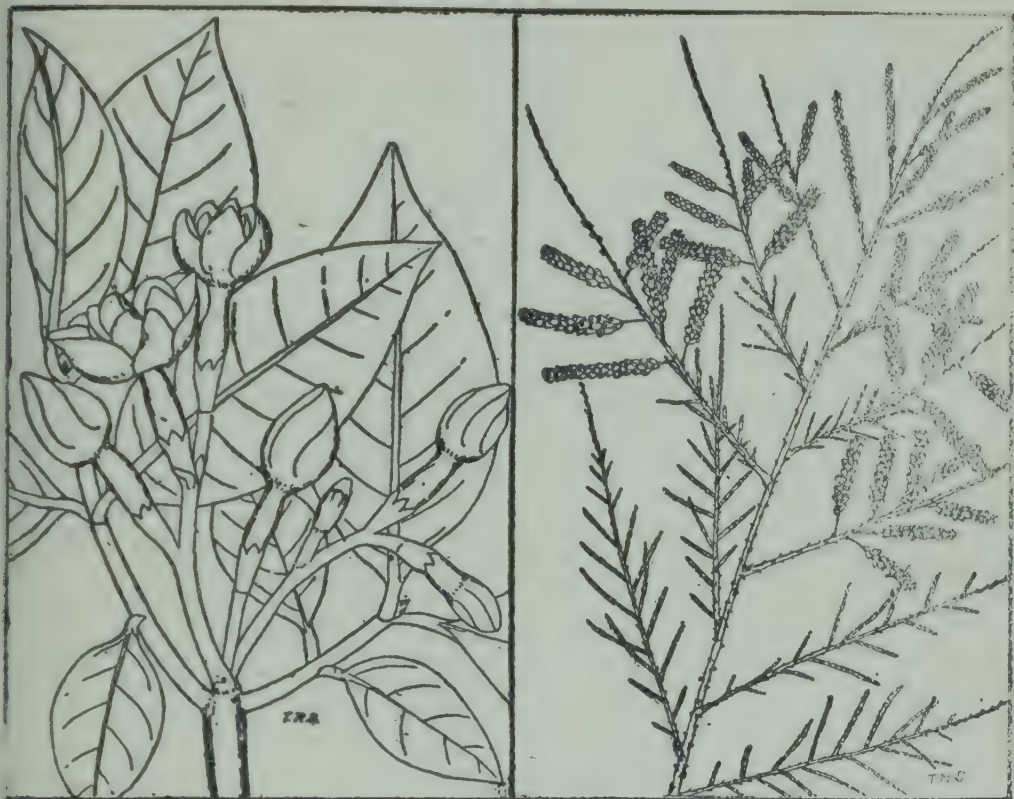


Fig. 116.—*Tabernaemontana coriaria*, fl. pl. Fig. 117.—*Tamarix gallica*.

Tamarix gallica. Common Tamarix, Flowering Cypress. A deciduous, flowering, small tree, having considerable resemblance to Cupressus and Casuarina, but clad in summer with its pretty pink flowers. It grows naturally in dry river beds in dry countries and can stand a good deal of frost and also brack soil, so suits Karroo localities where few other shrubs do well, but it also thrives in the moister and sub-tropical districts. Easily propagated by cuttings. (Fig. 117).

T. hispida. A stronger tree than the last, with glaucous-hairy leaves and large flowering spikes. Similar in its requirement to *T. gallica*.

There are several other smaller and more shrubby species.

Tecoma. A genus of shrubs, often scandent, but most of them can be treated as shrubs if clipped enough. All strike by cuttings, and all are half-hardy.

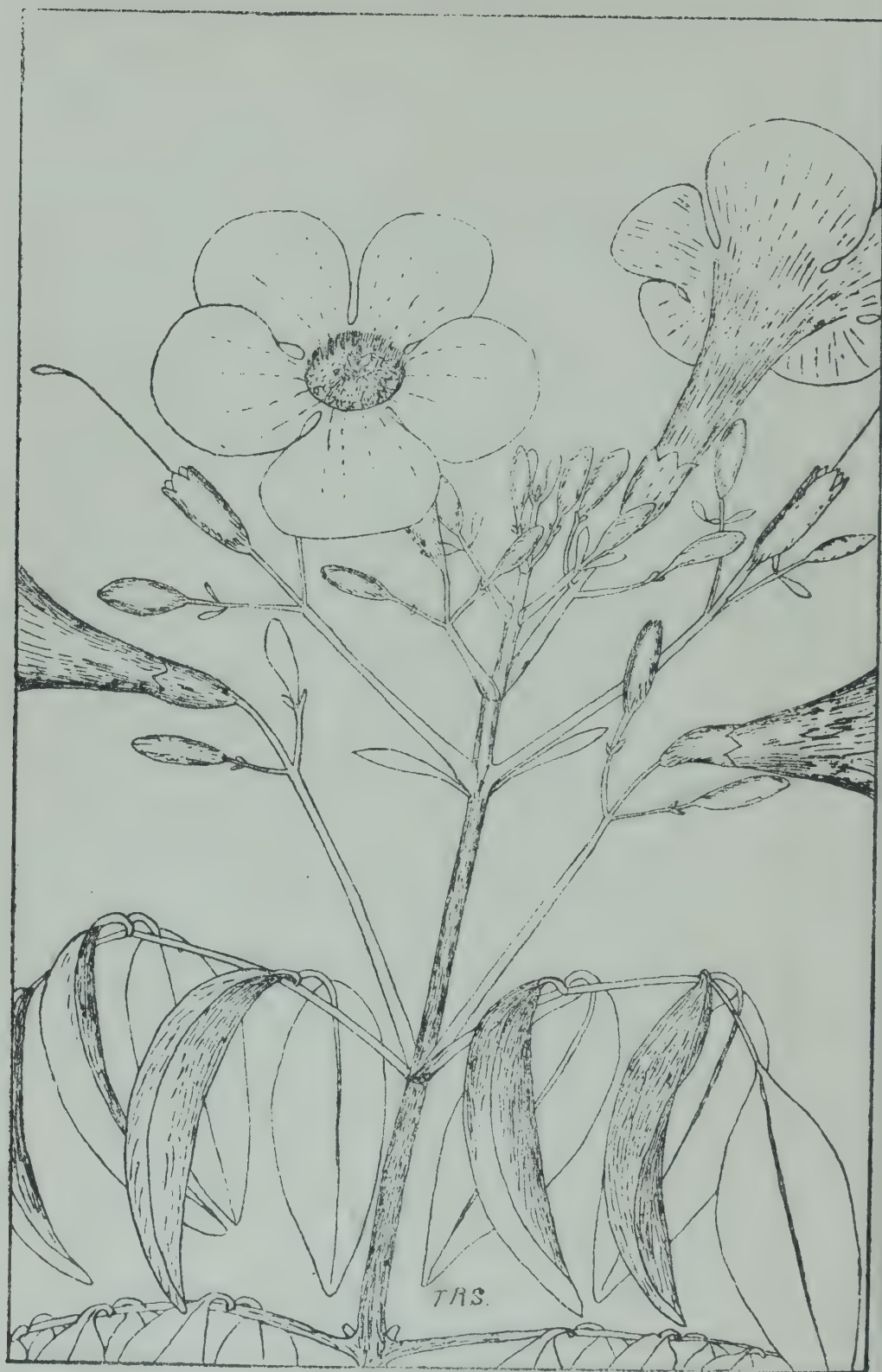


Fig. 118.—*Tecoma jasminoides*.

T. australis. A vigorous scandent evergreen shrub or creeper, having panicles of small yellowish-green flowers; its vigorous evergreen habit is more useful than its flowers, though it flowers freely.

T. grandiflora = *Bignonia* or *Campsis grandiflora*. A vigorous species from China and Japan, usually scandent, having the short, wide scarlet flowers in terminal panicles.

T. jasminioides = *Bignonia jasminioides*. A fairly robust evergreen species, shrub or climber as trained, having the flowers in corymbose panicles, the corolla white, streaked red in the throat, and with tube about one inch long. (Fig. 118).

T. radicans = *Bignonia radicans*. *Trumpet Flower*. A hardy deciduous shrub or climber, having the flowers in loose panicles and the scarlet-red corolla tubular and 3 to 4 inches long; adheres to brickwork by discoid aerial rootlets.

T. Smithii (= *Stenolobium alatum*, Sprague.) A very handsome and free-flowering bushy species, said to be a hybrid between *T. stans* and the native *Tecomaria capensis*. (Fig. 145).

T. stans (= *Stenolobium stans*, Juss.) *Yellow Elder*. A vigorous bush or small tree, not frost-resistant, flowering freely throughout the summer, the flowers canary-yellow, large, paniculate. (Fig. 146).

Thevetia neriifolia. An evergreen shrub, flowering from 2 ft. high and eventually becomes a small tree 10 ft. high. Flowers yellow, large, freely produced in terminal cymes, and resembling those of *Hibiscus*. It belongs to tropical America and does not stand much frost, but does well in sub-tropical localities; propagated by cuttings or from seeds. (Fig. 119).

Tree of Heaven. See *Ailanthus*.

Tristania conferta. An Australian evergreen Myrtaceous tree, resembling a *Eucalyptus* but having 5 fringed white petals in each flower. A good timber and a pretty tree, but easily affected by frost. Propagated from seeds. It grows to 40 or 50 feet high. (Fig. 147).

Ulmus. *The Elm*. A genus of large mostly deciduous trees, quite hardy against frost but requiring reasonably moist soil conditions, especially in spring. Some of them sucker freely. Propagated by cuttings or suckers. The flowers are small, brownish and pendulous, but the leaves and tree form are very attractive and they are largely used as Avenue-trees in America and as smoke-resistant trees in the smoky cities of Europe. There are many named forms having cut or variegated or coloured leaves, which are increased by buds or grafts.

U. americana. *The American Elm*. A large avenue or forest tree. Subject to caterpillar attack in America.

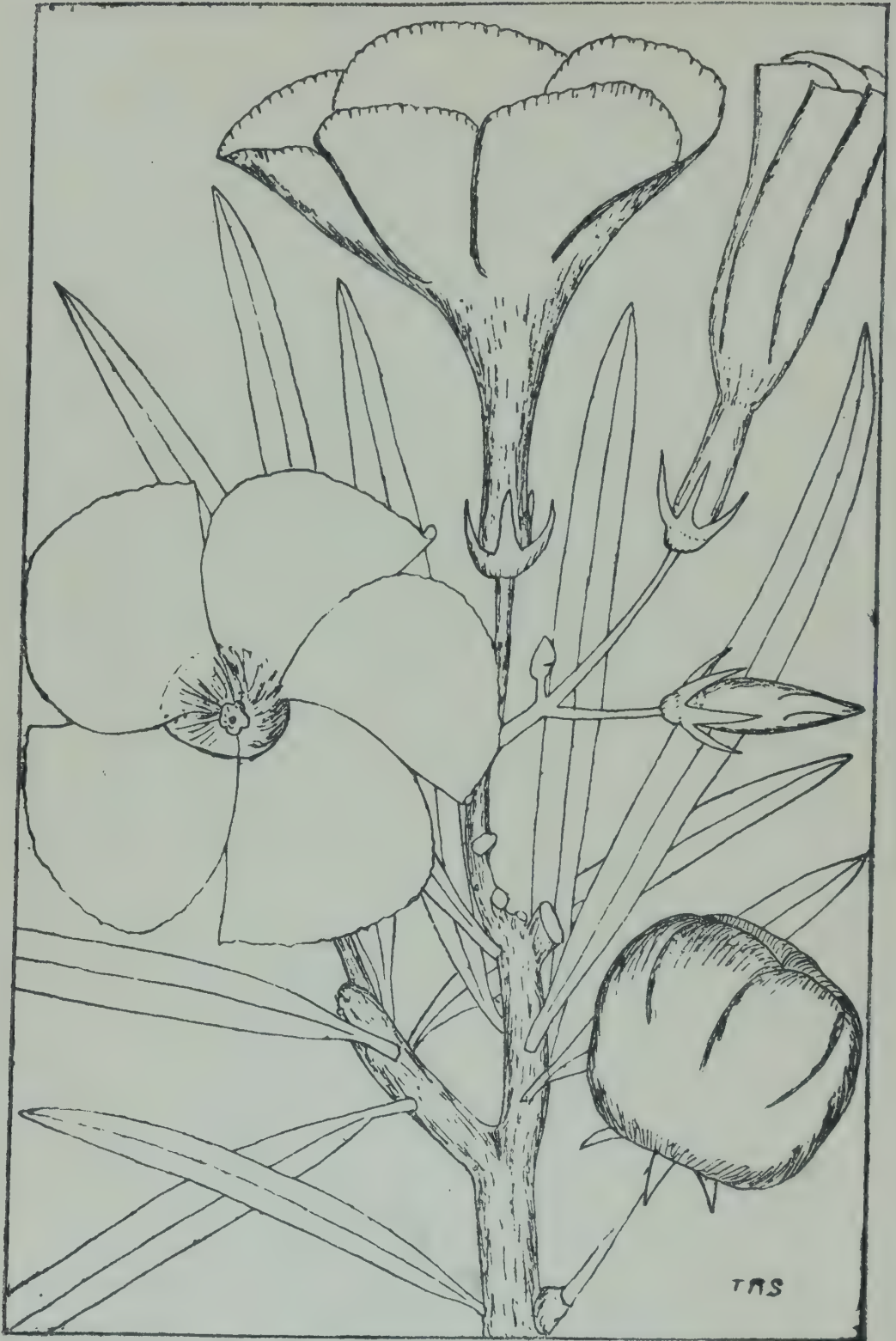


Fig. 119.—*Thevetia nerifolia*.

U. campestris. *The European Elm*. A smaller but similar tree, much used as a street tree in Europe.

U. montana. *The Cork Elm*. Smaller, but a nice summer shade tree, the branches covered with corky bark.

Verbena. Lemon scented. See *Aloysia*.

Veronica. A genus of herbaceous plants, some of which become more or less shrubby; hardy and free-flowering, the spikes standing well up, including many colours between blue, purple and white, as well as variegated leaves. Easily propagated by cuttings, and in some cases by seeds. There are many species and hybrids in cultivation, including:—

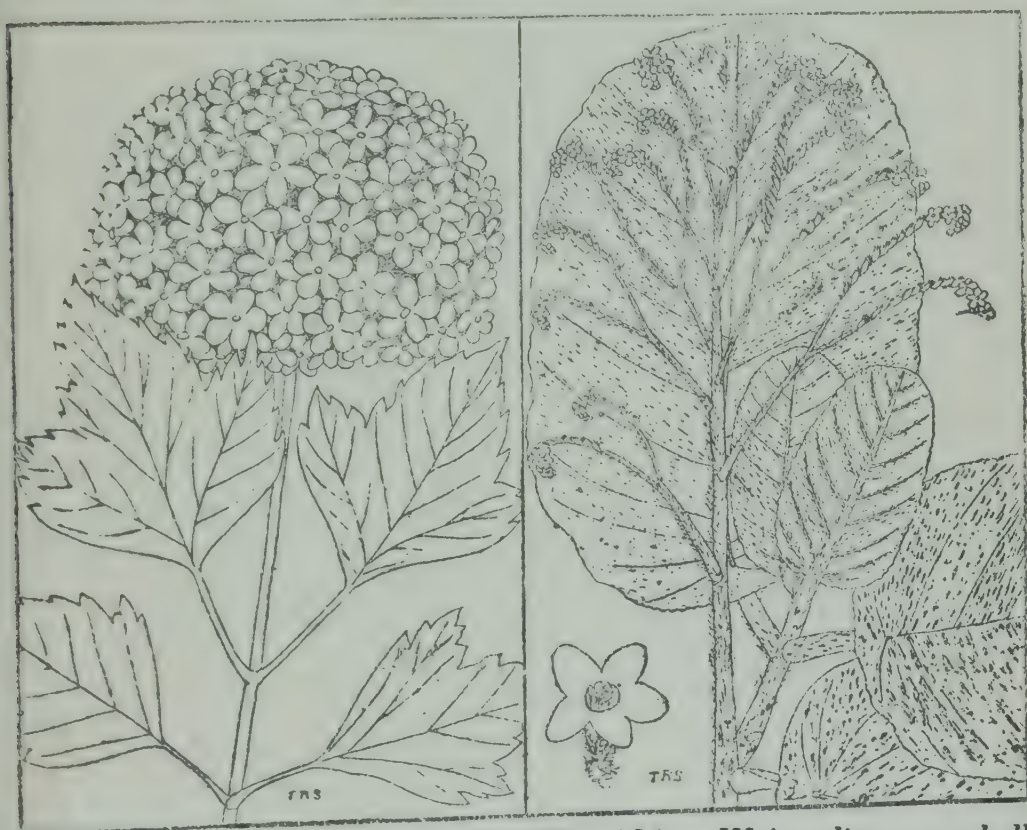


Fig. 120.—*Viburnum opulus sterilis*. Fig. 121.—*Weigandia macrophylla*.

V. Andersoni, 3 ft. high, bushy-woody; in many varieties of colour and leaf-variegation.

V. salicifolia. Leaves narrow, flowers rich blue.

V. Traversii. Flowers lavender-colour.

Viburnum. Shrubs or trees. with flowers white, in axillary or terminal corymbs or panicles; hardy and free-flowering, easily propagated by cuttings.

V. opulus. *Guellder Rose*, *Snowball bush*. Deciduous shrub 6 to 8 feet high, with terminal globose heads four inches diameter, having the outer flowers sterile, large and white, and the inner

smaller and creamy white. It enjoys frost together with moist soil in spring. A variegated-leaved form is grown in Europe.

V. opulus sterilis, which is usually spoken of as the double guelder-rose, has all the flowers large and sterile. (Fig. 120).

V. tinus = *Laurustinus*, is a shrub 3 to 6 ft. high, producing abundantly its terminal corymbs of rosy white small flowers. Much used for forcing for greenhouse winter decoration in Europe; not common here but does well. There are several varieties.

Weigelia. See *Diervilla*.

Wigandia. (*Hydrophyllaceae*.) Large herbaceous or soft-wooded shrubs from S. America, increased by cuttings. Several species.

W. macrophylla. Eight to ten feet high, with leaves 12 to 18 inches long, and large terminal dichotomous cymes, the blue or purplish flowers being sessile on the scorpioid cyme branches. Highly ornamental, but has irritating hairs. (Fig. 121).

Willow. See *Salix*.

Wistaria. A genus containing several scandent deciduous shrubs or shrubby creepers, most of which make excellent shrubs if clipped enough, but are more usually grown as verandah creepers. They also make beautiful umbrella standards if grown to single stems 5 or 6 feet high and then allowed to produce numerous pendulous flowering branches, the panicles hanging among or before the new leaves, and containing many blue, white, or lilac flowers. The most common form is the lavender-coloured variety of *W. sinensis*, but there are also a double-flowered, a white and a rose-coloured variety.

W. frutescens is violet purple, and of the same habit.

DETAILS CONCERNING INDIGENOUS SPECIES.

[As the author has already illustrated most of these in his "Forests and Forest Flora of the Cape of Good Hope," or in his "Forest Flora of Portuguese East Africa," references to these illustrations or to other works are appended.]

Aberia caffra. See *Dovyalis caffra*.

Acacia. This genus includes many South African species, most of which are considered worthy of cultivation where they are not abundant in the veld. All are grown from seeds, and as these seeds are exceedingly hard when mature and dry they require to be soaked in boiling water and left to cool in it till somewhat softened, which may take one or more days. Among the best are:

A. caffra. A riverside species having long spikes of light yellow flowers arranged in a loose terminal panicle. Usually a shrub rather than a tree (Sim, F.F.C.G.H., Pl. 60).

A. horrida. *The Doornboom.* A small spinose tree with rounded crown which produces its axillary glomerules of deep-yellow flowers in great abundance. Can be used as a hedge, by swing steeped seed *in situ* (Sim, F.F.C.G.H., Pl. 61).

A. giraffe. *The Camel-thorn.* A large tree in the dry North-Western districts having its flowers in axillary light yellow glomerules, and the pods very large. (Sim, F.F.C.G.H., Pl. 58).

A. natalitia. Somewhat similar to *A. horrida*, but with light yellow flowers, and papery bark.

A. arabica, var *Kraussiana*. A small flat-topped spinose tree, with bright-yellow round flower-heads and abundant beaded pods. Common in Natal and Transvaal. (Sim, F.F.P.E.A., Pl. 36).

Acocanthera venenata (= *Toxicophlaea Thunbergii*). *Poison-bush.* A bushy shrub, 4 to 10 feet high, frequent in forests or on rocky slopes where frosts are not severe. The numerous axillary flowers are pinkish white and so sweetly scented at night that a tree can always be located even in the dark. Well worth cultivation, but as all parts of the shrub are poisonous it is not advisable to have it among children, especially as its fruits resemble plums. (Sim, F.F.C.G.H., Pl. 154. Natal Plants, p74, as *A. spectabilis*).



Fig. 122.—*Castanospermum australe*.



Fig. 123.—Aloe Marlothii.



Fig. 124.—Aloe Bainesii.



Fig. 125.—Aloe Thraskii.



Fig. 126.—Bauhinia Galpini.

Adansonia digitata. *Baobab.* A deciduous tropical tree, forming a short but enormous bole, and very large yellowish Hibiscus-flowers which appear before the leaves. More curious than pretty, and suitable only for tropical localities. (Sim, F.F.P.E.A., pl. 11).

Acridocarpus natalitius. A sub-scandent forest shrub, producing terminal racemes of bright yellow flowers each an inch across. It can be grown from seeds, and requires sub-tropical conditions. (Sim F.F.C.G.H., pl. 17).

Adenandra. Pretty little Rutaceous shrubs having abundant small white or pink, sessile or umbellate terminal flowers. They belong mostly to the south-east and south-west coast districts.

Adenium. Succulent sub-tropical plants; some species have huge unshapely succulent trunks several feet in height and diameter, from which the short flowering branches rise. Flowers pink, one to two inches across, very beautiful; well worth cultivation. Said to be poisonous. Propagation by cuttings or seeds.

Adhatoda duvernoia. *Pistol-bush.* A leafy Acanthaceous shrub 6 to 10 feet high, found in the frostless eastern forests. Flowers pinkish-white or streaked with crimson, crowded on axillary peduncles, forming together a compound terminal panicle. Makes an excellent hedge in sub-tropical climate. (Sim, F.F.C.G.H., pl. 118, Fig. 3).

Agathosma. *Buchu-bushes.* Free-flowering little South-coast Rutaceous shrubs or shrublets, having pretty little white or lilac flowers and narrow leaves.

Alberta magna. An evergreen forest tree 12 to 30 feet high, found in the warmer eastern districts; the flowers are not so showy as is the fruiting condition, in which two of the calyx lobes of each flower lengthen to about an inch long and are membranaceous and scarlet, giving the tree the appearance of being in flower then. Increased by seed. (Sim, F.F.C.G.H., pl. 83).

Albizzia fastigiata. *The Flatcrown.* A deciduous flat-headed sub-tropical tree 25 to 50 feet high, having beautiful bipinnate foliage and capitate heads of small yellowish scented flowers. Its varying foliage-colours from one season to another make it attractive where deciduous trees are scarce. (Sim, F.F.C.G.H., pl. 62. (Sim, F.F.P.E.A., pl. 58). (Natal Plants, pl. 27).

Aloe. A genus of succulent Liliaceous trees, shrubs, or herbs, mostly conspicuous for their habit, but some also for their bright-red flowers. The collection of Aloes round the Government Buildings at Pretoria is a unique botanical and horticultural exhibition at all seasons, and is never without a bright show. All intending planters are advised to visit there and see the many species, all beautiful and grotesque, which are to be found

scattered locally throughout South Africa. All can be transplanted from the veld without difficulty, and most of them can also be grown by cuttings and by seeds. Among them are:—

A. Bainesii is the largest and most branched, often reaching 20 feet in height with very large arching leaves. The branches of this species strike easily. (Fig. 124).

A. Marlothii grows 5 to 8 feet high with an unbranched stem but bright scarlet flowers, and there are several other species related to this and more or less similar. (Fig. 123).

A. natalensis. A much-branched species common in cultivation and also frequent in rocky hillsides in Natal, Transvaal and eastern Cape Province, having bright scarlet flower-spikes, and usually in full flower through the winter. (Natal Plants, pl. 258).

A. Thraskii has an erect simple stem up to 12 feet height and grows on the sand-dunes along the Natal south-coast. (Fig. 125).

Andradia arborea. A leguminous timber tree common at Lourenco Marques with unequally-pinnate leaves and terminal and axillary panicles of scented rather small flowers, with brown rusty-pubescent calyx and no petals. Sub-tropical. (Sim, F.F., P.E.A., pl. 26).

Asystasia. See Mackaya Bella.

Aulax. South-western Proteaceous shrubs with capitate female flowers. Not in cultivation. (Sim, F.F., C.G.H., pl. 123, Fig 1).

Baphia racemosa. *Violet Pea.* An evergreen unifoliate Leguminous shrub or small tree found in the warmer eastern districts having white sweetly-scented pea-flowers with an orange spot in the centre of each flower. Sub-tropical. (Sim, F.F., C.G.H., pl. 137, Fig. 8). (Natal Plants, pl. 19).

Barosma. Small Rutaceous shrubs or shrublets, yielding Buchu-leaves in the S.W. districts, and producing freely the small usually white or pinkish-white flowers. There are many species.

Bauhinia Bowkeri. An evergreen shrub producing freely its large white flowers, and somewhat resembling a white Azalea. Raised from seeds. Native of eastern coast districts. (Sim, F.F., C.G.H., pl. 54).

Bauhinia Galpini. *The Pride of De Kaap.* An evergreen shrub somewhat straggling in habit but easily kept in form, which in early summer is covered with orange-red flowers; its profusion along the railway from Alkmaar toward the Transvaal border has led to its common name. Half-hardy; easily raised from seeds or cuttings, and well worth extended cultivation. (Figs. 32 and 126).

Bauhinia tomentosa. A straggling shrub with yellow flowers, each with a dark spot at the base inside, found along the Natal coast, but reasonably half-hardy. Grown from seeds. (Natal Plants, 399).

Bolusanthus speciosus. A small deciduous tender or half-hardy tree 20 to 30 feet high, which in spring is covered with racemes of bright mauve flowers, closely resembling wistaria, either with or before the new leaves appear. A beautiful and useful tree which has proved hardy up to Pretoria; not found in Natal or southward. Raised from seed. (Sim, F.F., P.E.A., pl. 50).

Bowkeria simpliciflora, **B. triphylla**, and other species are evergreen shrubs found in eastern forests and bush-veld having pure-white viscid calceolaria-like flowers. Worth a position in a moist spot. Strike from cuttings. (Sim, F.F., C.G.H., pl. 118; Harv. Thes. Cap. tab. 37).

Buddleia salvifolia. A vigorous shrub, with the foliage silvery underneath, and with terminal panicles of flowers, sometimes yellow, sometimes lilac-colour. Easily raised from seed. (Sim, F.F., C.G.H., pl. 114).

B. pulchella. A scandent or trailing shrub found in Natal and Zululand, cultivated in Europe. (Natal Plants, pl. 60).

Burchellia capensis. A forest evergreen shrub or small tree producing terminal cymes of crimson tubular flowers closely resembling those of the larger *Erica* species. A very beautiful shrub at its best, but varies a good deal. (Sim, F.F., C.G.H., pl. 81).

Buxus Macowani. A small eastern evergreen tree, closely small-leaved, and resembling the English Box. It forms a pretty shrub or tree, but the flowers are inconspicuous. (Sim F.F., C.G.H., pl. 145).

Cadaba juncea. A straggling almost leafless scandent shrub, or can be cut into a compact bush; it occurs in the eastern thorn-veld and is often covered with scarlet flowers. = *Schepperia juncea*. (Harvey, Thes. Cap. tab. 135).

Calodendron capense. *Wild Chestnut*. A large deciduous tree, easily raised from seeds, but which seldom flowers till it is 10 to 15 years old. Flowers in terminal panicles, large, pinkish white, or flesh-coloured, spotted with purple glands, very conspicuous. On the coast it flowers in spring; in the inland it flowers at midsummer, and it likes a frostless forest slope with an eastern aspect. (Sim, F.F., C.G.H., pl. 21). (Fig. 127).

Calpurnia. Free-flowering Leguminous shrubs, two to ten feet high, found in the forest and grassveld districts, some of which are worth cultivation. They closely resemble Laburnum, having similar pendulous racemes of yellow flowers. Easily raised from seed.

C. floribunda, 2 to 3 feet high, is the most floriferous; but *C. sylvatica*, (Sim, F.F., C.G.H., pl. 54), and *C. lasiogyna*, (Natal Plants, pl. 4), are larger and equally pretty.

Carissa grandiflora. *Amatungula* is a shapely evergreen spinose sub-tropical shrub 4 to 8 feet high, set with star-like white flowers $1\frac{1}{2}$ inches across, followed by scarlet plums equally long. It makes excellent specimen shrubs or good hedges where frost is absent. Increased by seeds and layers. (Sim, F.F., C.G.H., pl. 155; Natal Plants, pl. 14).

Cassipourea verticillata. A round-headed medium-sized evergreen sub-tropical tree, suitable for a street tree or similar purposes. The flowers are inconspicuous but the red seeds show to advantage. Raised from seed, and suitable where frost is absent. (Natal Plants, pl. 276).

Celtis Kraussiana. *Camdeboo Stinkwood*. A shapely deciduous tree, enduring all S. African climates except the dry Karroo, which in its best development is a very large tree on the eastern dry shale districts, but it extends into the forests also, as well as high on the mountains and into the sub-tropical coast. Its pale green spring verdure is very beautiful, and it often gets covered with its small white flowers before the leaves appear, or along with them. Raised from seeds. (Natal Plants, pl. 28; Sim, F.F., C.G.H., pl. 134).

Cephalanthus. A shining evergreen small-leaved shrub, 6 to 10 feet high, found in the Upper Natal and Transvaal bushveld; often covered with its red strawberry-like fruits. Raised from seeds.

Chilianthus oleaceus. A small evergreen tree, most common in the eastern shale districts, and in the north-western scrubs, which produces large trusses of creamy-white Elder-like flowers in early spring. Well worth cultivation. (Sim, F.F., C.G.H., pl. 113).

Chilianthus dysophyllus is equally free-flowering but the habit is scandent and the inflorescence more paniculate.

Clausena inaequalis. A small floriferous evergreen tree or large shrub, found in the forest and scrub districts. It transplants easily when small, or can be raised from seeds. Flowers white, scented; leaves have an unpleasant smell when crushed. (Sim, F.F., C.G.H., pl. 26; Natal Plants, pl. 66).

Clerodendron glabrum. A small half-hardy rounded evergreen tree, flowering freely in spring. Flowers small, white, numerous, like *Laurestinus*. Raised from seed or cuttings. (Sim, F.F., C.G.H., pl. 120).

Cliffortia strobilifera. A shrub 4 to 6 feet high, growing along eastern streams, with narrow heath-like leaves an inch long. Excellent for table decoration, stands a good deal of frost,



Fig. 127.—Calodendron capense.

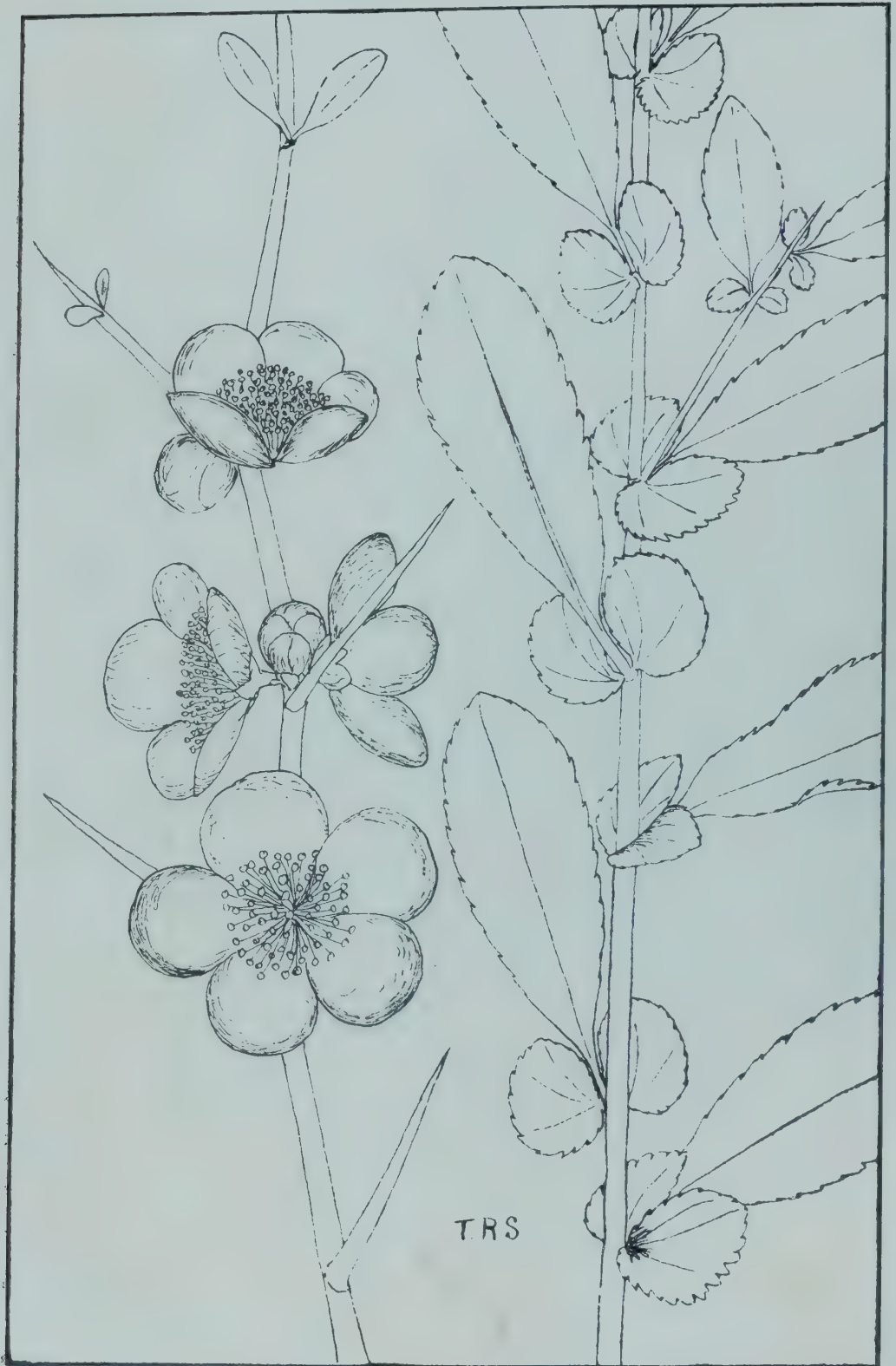


Fig. 128.—*Cydonia japonica*.



Fig. 129.—Cotyledon orbiculata.

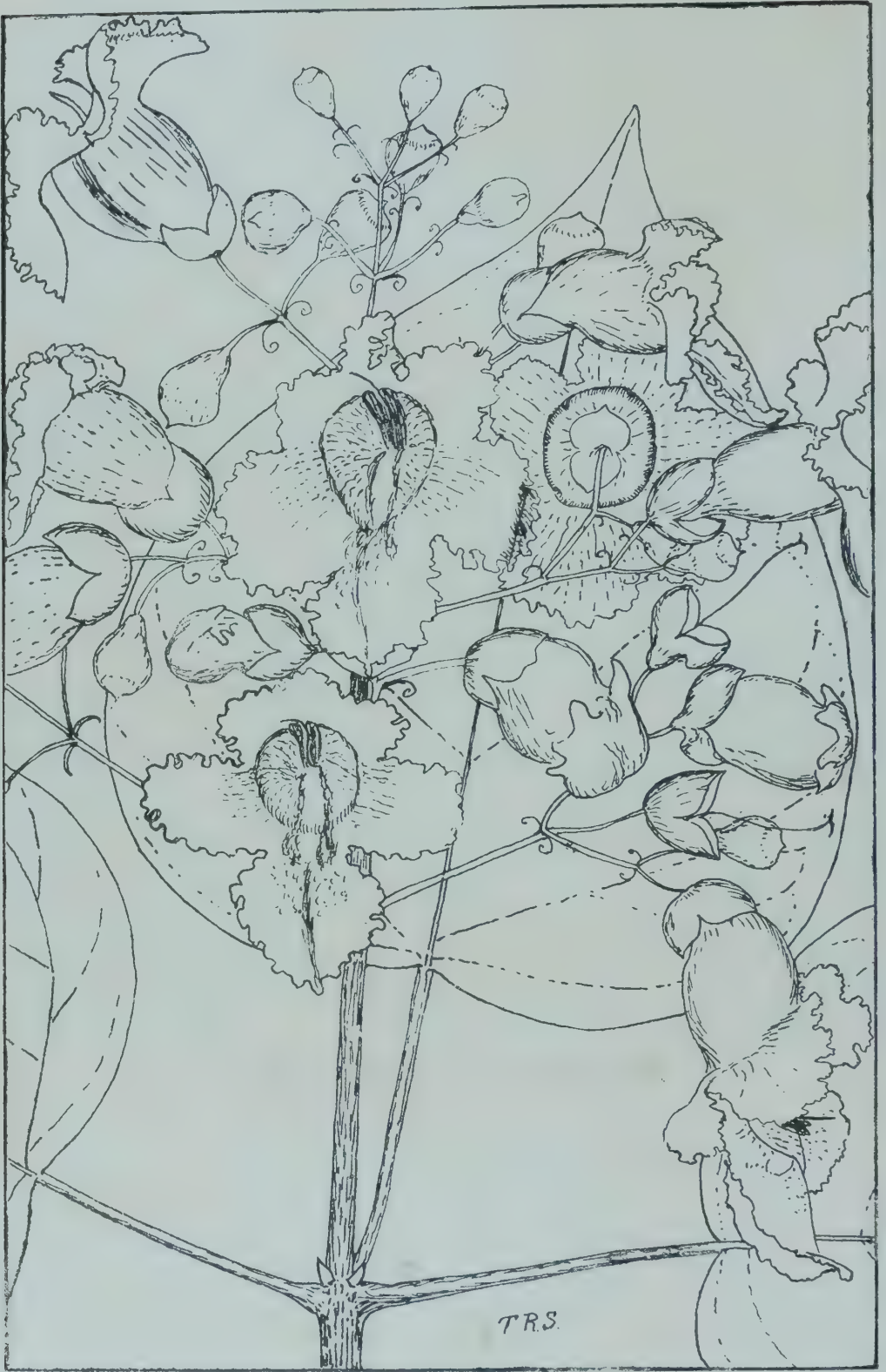


Fig. 130.—*Catalpa bignonioides*.

and makes a good hedge where soil moisture is sufficient. (Sim, F.F., C.G.H., pl. 64).

Combretum bracteosum (= *Poivrea bracteosa*). A subscandent shrub, found along streams in the frostless districts and often cultivated elsewhere. Flowers numerous in terminal and axillary branches, the petals and stamens bright red. (Natal Plants, pl. 77).

Combretum Kranssii and **C. erythrophyllum** are fairly large trees on which the leaves often change to a bright crimson during winter. (Sim, F.F., C.G.H., pl. 69).

Conopharyngia ventricosa = *Tabernaemontana ventricosa*. *Umhlambamaas*. A small swamp-tree with shining leaves and terminal cymes of white flowers about an inch across, found in the coast districts of Pondoland, Natal and northward. Requires constant root-moisture. (Sim, F.F., C.G.H., pl. 155, Fig. 3).

Cordyla africana. A large or very large sub-tropical Leguminous tree of very ornamental umbrella-shaped habit and appearance, having simply pinnate pendant leaves a foot long and second racemes of flowers rendered very conspicuous by the bright golden yellow filaments. Well worth cultivation in the warmer districts. (Sim, F.F., P.E.A., pl. 46).

Cotyledon orbiculata. A succulent shrub 2 to 3 feet high with large succulent leaves, and with cymose inflorescence standing well up and red flowers an inch long. Excellent for rockery, and it occurs in various varieties, one having the leaves glaucous-white. (Fig. 129).

Crassula. A genus of succulent shrubs, sub-shrubs or herbs, free-flowering, with white or pinkish white flowers. All are good rockery plants.

C. arborescens and **C. lactea** form shrubs 4 feet high.

Crotalaria. Evergreen Leguminous shrubs 4 to 8 feet high, flowering freely, the flowers in racemes are large and yellow. There are several species. **C. capensis** is the most common. (Sim, F.F., C.G.H., pl. 54; Natal Plants, pl. 92).

Cunonia capensis. *Red Els*. An evergreen tree of large size but flowering freely as a younger tree or bush, and well worth cultivation where frost is absent, though it belongs to the forest districts rather than to the coast. Canopy heavy, leaves pinnate, shining; flowers white in erect racemes 4 to 6 inches long, sweetly scented. (Sim, F.F., C.G.H., pl. 66).

Cussonia. A genus of Araliaceous *Soft-wooded* trees known throughout South Africa as *Cabbage Trees*, having very distinct somewhat palm-like habit and large curiously cut palmate leaves. The habit is excellent and unique in horticulture, the flowers are poor. Coppice-shoots strike as cuttings; seeds are usually damaged by insects. There are several species, among which **C.**

paniculata is the most hardy, growing up into the mountain districts; *C. spicata* is common in the eastern midland and coast districts, and *C. umbellifera*, which is the largest and most branched tree, is confined to the frostless sub-tropical districts. (Sim, F.F., C.G.H., plates 74, 75, and 76).

Dais cotinifolia. A small tree, often flowering as a small shrub, producing freely its capitate lilac flowers, and present more or less throughout the eastern districts. Propagated from underground suckers, and well worth extended cultivation. (Sim, F.F., C.G.H., pl. 153. Fig. 5; Natal Plants, pl. 308).

Diosma. Small heath-like free-flowering south-western Rutaceous shrubs or shrublets related to the Buchu-bushes. Flowers white or purplish-white, small, numerous.

Dodonaea viscosa is a straggling sub-tropical shrub which in the Transvaal low-veld has obtained a reputation as a hedge-shrub which so far as I have seen is seldom warranted. In dry sandy soils its fruits are highly coloured in autumn and winter.

D. thunbergiana is very similar. (Sim, F.F., C.G.H., pl. 26).

Dombeya. A genus of excellent flowering shrubs for garden use; small-seeded, and consequently rather difficult to raise, and not easily struck by cuttings. All enjoy the warmer dry scrubs.

D. cymosa and **D. rotundifolia** are erect single-stemmed shrubs 6 to 10 feet high with small white flowers, flowering luxuriantly on rocky ridges in early spring and known as *Wild Plum*. (Sim, F.F., C.G.H., pl. 18, Fig. 4).

D. Dregeana and **D. natalensis** (Natal Plants, pl. 90), have larger and fewer but very pure-white flowers, resembling abutilons, and usually form bushy bushes. (Sim, F.F., C.G.H., pl. 18, Fig. 2).

D. Burgessiae has very large leaves and also larger flowers, white suffused with pink or purple. (Sim, F.F., P.E.A., pl. 8; Natal Plants, pl. 518).

Dovyalis caffra = **Aberia caffra**), *Kei Apple*, and **D. tristis** *Wild Apricot*, are eastern shrubs or trees producing abundantly rather large yellow fruits which render them conspicuous. **D. caffra** being exceedingly spinose forms the best pig-proof and Kaffir-proof hedge in suitable districts, which are where frosts are not severe. It is evergreen except under extreme drought. (Sim, F.F., C.G.H., pl. 5, *D. caffra*; and pl. 6, *D. tristis*).

D. rhamnoides and **D. rotundifolia** both produce abundantly the small scarlet fruits from which they are named *Zuurbesjes*; these fruits make good acidulous preserves, and render the trees or bushes very attractive. They occur usually in frostless localities, and are spinose, and easily raised from seeds. (Sim, F.F., C.G.H., pl. 7, Figs. 1 and 2).

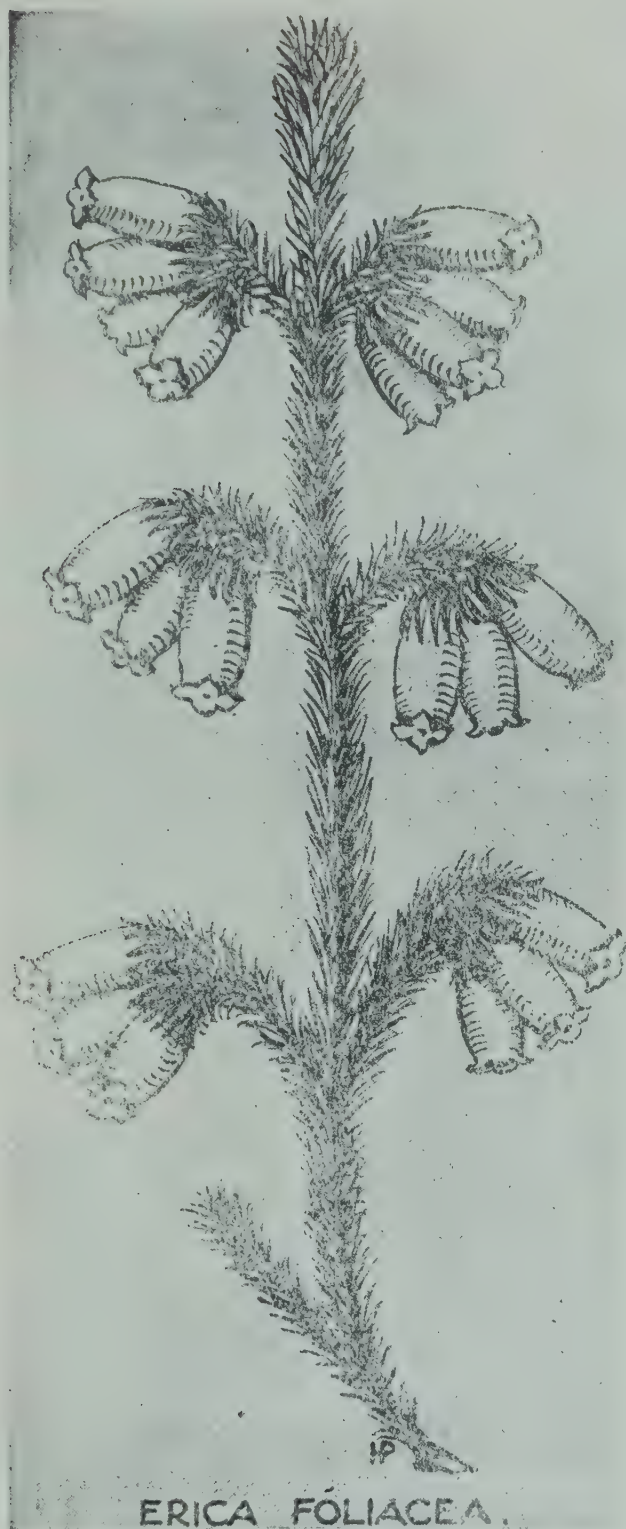


Fig. 131.—*Erica foliacea*.



Fig. 132.—*Erica ventricosa*.

Draceana reflexa. A branched Liliaceous tropical tree or shrub, common in Gaza-land; 20 to 40 feet high not unlike *D. indivisa* in foliage, with terminal large panicles of greenish flowers followed by yellow berries an inch in diameter, like bunches of grapes. (Sim, F.F., P.E.A., pl. 86).

Duvernoia adhatadoides, see *Adhatoda duvernoia*.

Ehretia hottentotica. An exceedingly variable shrub; branches often pendent from a central stem, and set with numerous cymes of lilic flowers, or later with scarlet berries. Both conditions are quietly attractive. (Sim, F.F., C.G.H., pl. 116).

Erica. A large genus, highly developed in South Africa, especially in the south and south-west districts, and producing some of the most beautiful shrubs and shrublets in existence. A century ago Cape Heaths were the rage in Europe and many more Cape species were then and still are cultivated in Europe than have ever been cultivated in South Africa. There is a certain difficulty connected with Heath culture inasmuch as they cannot endure extremes of either drought or moisture, and are consequently easily killed by drought or by saturation. In nature they occur mostly fully exposed in rocky shingle, where the drainage is always sufficient and yet, despite the long dry summer, moisture is always present among the stones. (Fig. 131).

E. cerinthoides. Usually scarlet but sometimes yellow, is more widely distributed than most of the others and in ordinary garden soil produces compact free-flowering bushes 2 to 4 feet high.

E. ventricosa, purplish and other colours, is another fairly easily managed. (Fig. 132). The above two and **E. hyemalis**, (rosy-pink), **E. Cavendishiana** (yellow), **E. vestita** (white or rosy-colours) and **E. caffra** (small but numerous pink flowers), are largely grown for the London market as pot plants.

Almost every one of the very many species is worth cultivation and can be struck from cuttings if sufficient care is taken, but I am afraid that is usually beyond the limit of South African patience, especially as a brisk trade exists in the supply of wild heath blooms to the florists from Caledon and neighbouring districts, so that the flowers can be enjoyed in every home without the trouble of growing them. But no more fascinating group exists for those who have the skill and patience to reproduce natural conditions or to produce suitable conditions, and to maintain these to the satisfaction of the plants.

Erythrina. Trees or shrubs, usually deciduous, belonging to the warmer eastern districts or eastern forests, where only light frosts are experienced, except *E. acanthocarpa*, which occurs under more severe conditions. All are easily raised from soaked seeds, the large scarlet seeds being too hard for germination

without soaking in boiling water. Some or all can also be raised easily from truncheon-cuttings.

E. acanthocarpa. *Tambookie-thorn*. An exceedingly prickly free-flowering deciduous shrub about 3 feet in height, found on the calcareous flats near Queenstown. Flowers yellow; root enormous. (Sim, F.F., C.G.H., pl. 52, Fig. 2).

E. caffra. *Kaffir-boom*. A very large deciduous tree, but most common as a small tree, and flowering freely so, the flowers appearing in winter or early spring before the leaves begin to appear and as the corolla is large and scarlet and the flowers in many flowered racemes this is the brightest winter-flowering tree in the frostless districts. Easily struck by large cuttings. (Sim, F.F., C.G.H., pl. 53). There is a rare white form. (Fig. 133).

E. Humeana. *Umsintsana*. A shrub 4 to 8 feet high, having a huge underground crown, but usually small flowering branches. Panicles longer and narrower than in *E. caffra* and the corolla deeper crimson. A splendid garden plant. (Fig. 56).

E. tomentosa. Usually a small rugged corky tree, found on hot rocky slopes, but sometimes growing to large size. Racemes nearly as in *E. caffra*, but the leaves much larger and pubescent, and the seeds much larger. (Natal Plants, pl. 384-385; Harv. Thes. tab. 61-62 as *E. Sandersoni*).

E. Livingstoniana. A very large tree, with large glabrous leaves, large racemes of bright scarlet flowers, and beaded pods a foot long containing scarlet seeds up to an inch long. The finest of the African species, but more distinctly tropical than the others. (Sim, F.F., P.E.A., pl. 48).

Eugenia cordata. *Umdoni*. A glaucous-foliaged tree usually connected with streams or sub-soil moisture and found only where frost is absent or light. Flowers small in dense fascicles; fruits half-inch long, bluish, abundant. (Sim, F.F., C.G.H., pl. 71, Fig. 3).

E. Zeyheri. *Wild Jambos*. A small evergreen forest tree with small myrtle-like leaves and flowers, followed by scarlet fruits resembling cultivated Cherries, edible, but with more stone than flesh. Worth cultivation. (Sim, F.F., C.G.H., pl. 71, Fig. 1).

E. capensis. An evergreen myrtle-like shrub 2 to 5 feet high, usually found on sand-dunes facing the sea. Fruit purplish; flowers white. Suitable for use as shrubs or hedge on exposed sea-aspects and on loose sand. (Sim, F.F., C.G.H., pl. 71, Fig. 2).

Euphorbia. A very large succulent genus including trees, shrubs and herbs, often leafless and Cactus-like, or with reduced leaves, and all having milky juice. Not difficult to transplant, and in some species cuttings strike easily. All the larger species

require sites nearly or quite frost-free, usually in hot rocky slopes. Many of the species form excellent rockery plants, though it is the grotesque figure rather than the flower that takes attention. The largest species are:—

E. grandidens, *E. tetragona*, and several others having tree size and candelabra form, with the leaves absent or rudimentary, and the stems succulent and variously angled and spinescent. (Sim. F.F., C.G.H., pl. 141, Figs. 1 and 3). (Fig. 134).

E. tirucalli. Growing to tree size, succulent and practically leafless, but the stems not angled, and with numerous ultimate green twigs like lead-pencils, often drooping. This is the tree on which the Natal rubber industry was founded. Strikes easily and forms an ornamental and grotesque garden tree wherever frost is absent, though no rocky slope or sandy flat is too hot for it. Used as an effective hedge in Lourenco Marques and stands clipping well. (Sim, F.F., P.E.A., pl. 84).

Various other species having erect unbranched cactus-like stems occur in the Fish River scrubs and elsewhere.

Ficus, though hardly flowering attractions, are splendid foliage trees, especially in the warmer districts where *F. capensis*, *F. natalensis*, and *F. utilis* occur and are largely used. (Sim, F.F., C.G.H., plates 135 and 136; F.F., P.E.A., pl. 91).

Gardenia. Evergreen trees or shrubs of the eastern forest districts having white flowers, usually sweetly scented. All can be grown from seeds, and some, probably all, from cuttings also.

G. globosa. *Umsugusu*. A very free-flowering shrub or small tree having bellshaped flowers an inch across, white outside, dotted crimson inside. Cultivates easily and grows with fair speed. (Sim, F.F., C.G.H., pl. 87, Fig. 4; Natal Plants, pl. 376).

G. Neuberia (Tongoti). A shrub found usually in forest streams, having numerous divaricate branches, and the corolla rotate and about an inch across, the petals often tinged red outside. (Sim, F.F., C.G.H., pl. 80; Natal Plants, pl. 25, as *G. citriodora*).

G. Rothmannia. An erect tree usually found in forest streams and having large white bell-shaped Lily-like flowers 3 inches across or more. A beautiful species. (Sim, F.F., C.G.H., pl. 79).

G. Thunbergia. *Katjepiering*. A rigid shrub or small tree producing freely its large rotate star-shaped white flowers three inches across. It grows but slowly and easily from seed, and is often used as a stock on which to work *G. florida*. What used to be considered all one species as *G. Thunbergia* has lately been split up into nine separate but similar species. (Sim, F.F., C.G.H., pl. 78; Natal Plants, pl. 40). Fig. 135.

Grewia. *Kruis-besjes*. A genus of shrubs or climbers with rather pretty star-shaped flowers, usually purple or purplish, in some species yellow. Easily raised from seeds. *G. lasiocarpa* with purplish flowers two inches across is scandent or subscandent. (Sim, F.F., C.G.H., pl. 18, Fig. 3). *G. caffra* (Natal Plants, pl. 42), and *G. occidentalis* (Sim, F.F., C.G.H., pl. 18, Fig. 1; Natal Plants, pl. 210) are small trees or large shrubs with numerous but smaller flowers, and several other species are dry-country shrublets.

Greyia. Scraggy shrubs or small trees occupying rocky situations, usually on the eastern mountain ranges and flowering very freely during winter or early summer, the flowers being bright red and showing well even from a distance, intermixed as they usually are with *Aloe natalensis*. Coppice shoots strike as cuttings and seedlings can be grown; all are worth cultivation and despite their native habitat grow and flower freely in cultivation. There the three species, all South African, and much alike in general habit and habitat, viz., *G. Flanagani* (Sim, F.F., C.G.H., pl. 30; Fig. 2), *G. Sutherlandii* (Natal Plants, pl. 313), and *G. Radlkoferi*, the latter belonging to the Transvaal only.

Halleria elliptica. *Umbinza*. A hardy shrub or small tree with shining leaves, and with the brick-red flowers produced all along the stem and larger branches. Sometimes called *Wild Fuchsia*. Cultivates easily, and can be clipped into a nice hedge. (Sim, F.F., C.G.H., pl. 117).

Hibiscus tiliacens. *Umlolwa*. A small tree with rounded leafy crown used as a street tree in Durban. It likes coast conditions and flowers freely, its large flowers changing colour as they mature, at first yellow, afterwards purplish yellow. Grows from seeds and from truncheon-cuttings. (Sim, F.F., C.G.H., Fig. 14). (Fig. 136).

H. pedunculatus is a straggling shrub or can be clipped into form, and has long-stalked purplish bell-flowers resembling *Abutilon*. Cuttings strike easily.

Homalium rufescens. A small evergreen tree 10 to 20 feet high, with small shining wavy leaves and numerous pretty little white flowers in axillary and terminal racemes or panicles. (Sim, F.F., C.G.H., pl. 68).

Hypericum lanceolatum. A riverside shrub 4 to 6 feet high, having pretty yellow flowers an inch across, freely produced. Cultivates easily in reasonably moist soil.

Indigofera. Shrubs, shrublets or herbs, some of which have racemes of very pretty purple or purplish flowers. Raised from seeds.

I. cylindrica is white. (Sim, F.F., C.G.H., pl. 54, Fig. 3).



Fig. 133.—*Erythrina caffra*.

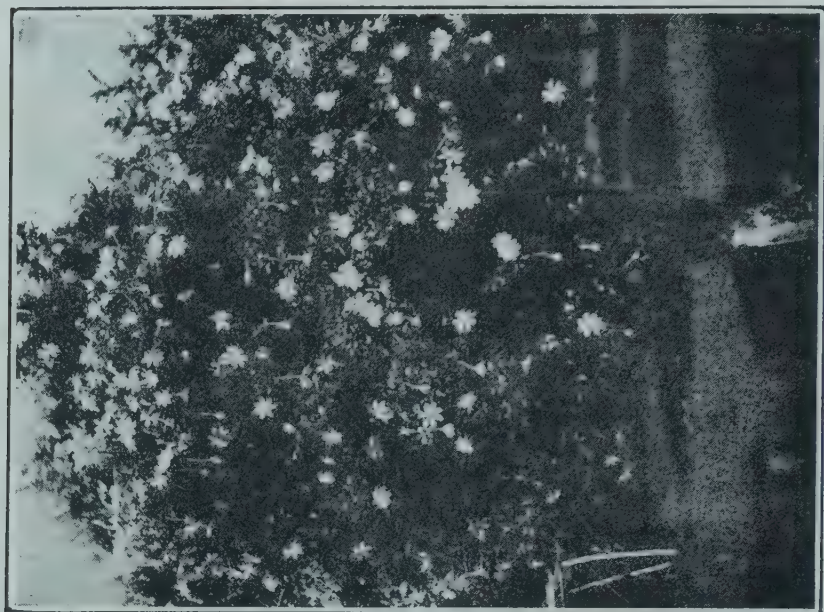


Fig. 135.—*Gardenia Thunbergia*.



Fig. 134.—*Euphorbia grandidens*.



Fig. 136.—Hibiscus tiliaceus.



Fig. 137.—*Leucospermum conocarpon*.

Ilex capensis. An evergreen tree usually growing in streams having small inconspicuous flowers but numerous small red berries in the axils of the leaves. (Sim, F.F., C.G.H., pl. 20).

Jasminum. The South African species are all white, and all naturally climbers but if clipped down or browsed down assume bush habit and flower very freely. All are easily cultivated, and grow from seeds or cuttings. Among them are:—

J. angulare. A thorn veld climber. (Sim, F.F., C.G.H., pl. 137, Fig. 4).

J. glaucum. A thorn veld climber. (Sim, F.F., C.G.H., pl. 103, Fig. 1).

J. multipartita. Flowers large, with many petals. (Natal Plants, pl. 328).

J. streptopus. Flowers smaller, with fine petals. (Natal Plants, pl. 50).

Kigelia pinnata. *Cucumber-tree*. A bushy sub-tropical tree with opposite pinnate leaves, and large brownish flowers in racemes which are produced from the stem or old wood branches, followed by the cucumber-like fruits a foot long. (Sim, F.F., P.E.A., pl. 82; Natal Plants 386 and 387).

Kraussia lanceolata. *Wild Coffee*. A half-hardy shrub or small tree closely resembling *Coffee* in appearance and producing small white axillary flowers in great abundance. Cultivates easily where frost is absent. (Sim, F.F., C.G.H., pl. 85, Fig. 1; Natal Plants, pl. 231).

Lasiosiphon. Shrubs or shrublets frequent in the grass-veld, having capitate inflorescence and yellow flowers. Many species. (Sim, F.F., C.G.H., pl. 153; Natal Plants, plates 256, 262, 270).

Leucadendron argenteum. *Silver-leaf tree*. Well known by its silvery foliage which make it a good landscape tree. It is abundant on Table Mountain, Cape Town, and grows easily from seed, but is difficult to keep in health for many years away from its natural habitat. (Sim, F.F., C.G.H., pl. 124).

Leucosidea sericea. *Umchiga*. A grey shrub forming a landscape feature from 3,000 feet altitude upward, usually near a stream or rocks. The flowers are small and yellowish but the tree has a very distinct aspect. Grows from seed. (Sim, F.F., C.G.H., pl. 64).

Leucospermum. Proteaceous shrubs, having the same general appearance as *Protea*, growing in the same habitats and requiring the same treatment. Seldom in cultivation, but worth it. Flowers usually yellow. About twenty species. (Sim, F.F., C.G.H., plates 129 and 131). Fig. 137.



Fig. 138.—*Millettia caffra*.

Lonchocarpus. Small sub-tropical leguminous trees, having large pinnate leaves and Wistaria-like flowers varying from pale to dark blue produced in hanging racemes. *L. laxiflorus* and *L. mossambicensis* occur in Maputaland and that neighbourhood. (Sim, F.F., P.E.A., plates 50 and 53).

Loxostylis alata. An ornamental tree resembling *Schinus molle*, found in the district between Grahamstown and the sea, with shining bright green leaves and terminal panicles. (Sim, F.F., C.G.H., pl. 33, Fig. 2).

Lycium. Shrubs varying with habitat, sometimes vigorous and leafy free-flowering, and with large red fruits, in other cases leafless, thorny, miserable shrublets. They have gained a reputation as hedge-plants, which is only maintained under best conditions. (Sim, F.F., C.G.H., pl. 115).

Mackaya Bella (= *Asystasia*). A free-flowering shrub, native of the frostless coast forests, easily cultivated, and well worth it. The flowers are lavender-blue, somewhat like Fox-gloves, and freely produced in terminal racemes. (Harv. Thes. Cap. tab. 13).

Maerua caffra (= *M. triphylla*). An evergreen shrub or small tree, flowering freely, without petals, but with numerous long white filaments making the flower not unlike that of the *Rose-apple*. (Sim, F.F., C.G.H., pl. 11, as *M. triphylla*).

Melianthus major. A softwooded stream shrub, unique in its pinnate glaucous large leaves, and racemes of curious flowers.

Metalasia muricata. *Bloembosch*. A heath-like shrub 5 to 20 feet high producing abundant terminal inflorescence of small whitish composite flowers related to *Helichrysum*. Grows freely of coast sand-dunes as also in inland scrub. (Sim, F.F., C.G.H., pl. 87).

Millellia caffra. *Umzimbeet*. An evergreen half-hardy leguminous tree, usually small, but sometimes very large, with shining pinnate leaves, and erect panicles 6 to 9 inches long, of purple flowers, with a white spot at the base of the upper petal, followed by large and conspicuous brown-pubescent pods. Raised from seeds. (Sim, F.F., C.G.H., pl. 55; Natal Plants, pl. 32). Fig. 138.

M. Sutherlandii. *Umkunye*. A very large evergreen sub-tropical tree, having massive foliage and racemes of showy purple flowers. Fit for a shade or street tree along the coast belt. (Sim, F.F., C.G.H., pl. 160).

Mimusops. Evergreen trees, producing curious white flowers an inch across, in fair abundance, followed by brown or red fruits. All can be raised from seeds.

M. caffra belongs to the coast sand-dunes, and can be used in that kind of situation. (Sim, F.F., C.G.H., pl. 97).

M. marginata is a sub-tropical species with large leaves, very numerous flowers, and fruits $1\frac{1}{2}$ inches long. (Sim, F.F., C.G.H., pl. 97).

M. obovata. *Red Milkwood* is a forest tree, closely related to *M. caffra*. (Sim, F.F., C.G.H., pl. 96).

Moschosma riparia. A soft-wooded tender sub-tropical Labiate shrub, found in lower Natal, flowering very freely in winter. Flowers small, light lilac-colour, very numerous. (Natal Plants, plates 1 and 2).

Mitriostigma axillare. A free-flowering sub-tropical Rubiaceous shrub having fragrant white flowers in axillary corymbs. Leaves lanceolate. Height 4 to 6 feet. (Bot. Mag. 4987 under name *Gardenia citriodora*).

Nuxia floribunda. *Vlier*. An evergreen tree of the eastern districts, having large leaves, and very large panicles of small white scented flowers freely produced in mid-winter. (Sim, F.F., C.G.H., pl. 157; Natal Plants, pl. 59).

Ochna atropurpurea. A shrub 3 to 6 feet in height but usually well-rooted among stones. When in flower the bush is covered with bright yellow flowers; when in fruit the calyx becomes red and the carpels black, having then also a flower-like appearance. (Sim, F.F., C.G.H., pl. 29; Natal Plants, pl. 381).

Olca. Besides the European Olive this genus has several South African species, having panicles of small white flowers, and evergreen foliage, which render them good landscape subjects, though some are very large.

O. capensis. A free-flowering shrub or small tree, common on coast dunes and suitable for such localities. (Sim, F.F., C.G.H., pl. 109).

O. humilis. A small narrow-leaved species of the Western Province and coast dunes. (Sim, F.F., C.G.H., pl. 120).

O. foveolata. *Bastard Ironwood*. A forest tree having axillary inflorescence. (Sim, F.F., C.G.H., pl. 107).

O. laurifolia. *Black Ironwood*. A very large forest tree having terminal inflorescence. (Sim, F.F., C.G.H., pl. 160).

O. verrucosa. *Wild Olive*. Very similar to the European Olive, and found on rocky hillsides rather than in forests. Flowers in axillary panicles. (Sim, F.F., C.G.H., pl. 105; and F.F., P.E.A., pl. 77) = *O. chryssophylla* Lam.

O. Woodiana. A small coast species with shining foliage, very ornamental. (Sim, F.F., C.G.H., pl. 108; Natal Plants, pl. 237).

Olinia cymosa. *Mountain Hard Pear*. An evergreen hardy tree with myrtle-like foliage and terminal panicles of small pink or pinkish-white, very sweetly hyacinth-scented flowers, like English Lilac, followed by red berries. These flowers and fruits



Fig. 139.—*Hymenosporum flavum*.

are often carried by small bushes, down to 3 feet height, possibly coppices from old underground crowns. A delightful garden tree, hardy in the midland and mountain districts, but less frequent coastward. Grows from seeds. (Sim, F.F., C.G.H., pl. 72).

Oncoba Kraussiana. A shrub 6 to 10 feet high flowering profusely in early summer, the flowers white, 3 inches across, like small Magnolias. Native of the sub-tropical coast, but hardy up to Maritzburg. Usually grown from seed, and frequently cultivated as a flowering shrub. (Natal Plants, pl. 72).

O. spinosa. A larger and more prickly species, equally floriferous. (Sim, F.F., P.E.A., pl. 2b).

Osbeckia umlaasiana. A half-hardy swamp shrub 3 feet high, very free-flowering, the flowers in terminal panicles, and of a pink, pinkish-mauve, reddish or violet colour. One of the few shrubs which can endure and requires permanently swampy conditions.

Oxyanthus. A genus of sub-tropical evergreen Rubiaceae shrubs or small trees with good foliage and pure white flowers, the corolla rotate with a very long white tube. Always found in bush, where frost is absent. There are three species, viz., *O. natalensis* (Natal Plants, pl. 26); *O. Gerrardi* (Sim, F.F., C.G.H., pl. 82); and *O. latifolius*.

Pachypodium namaquanum and other species. Apocynaceous sub-shrubs from the western Karroo, in some cases having large succulent stumps from which the flowering branches rise. Flowers pink, very pretty, well worth cultivation. Probably obtainable best from seeds. (Harv., Thes. Cap. tab. 117).

Panax Gerrardi. A shrub or small tree found in the Natal midland mountain streams having large palmatifid leaves, especially on young unbranched trees which are ornamental as pot or garden plants. Flowers small.

Pavetta. A genus of shrubs or small trees all bearing panicles or umbels of white flowers in great abundance. They are well worth cultivation and can be raised from seed or by cuttings. There are many South African species, the best of which is:—

P. lanceolata. *Christmas-tree.* So named because it is usually covered with its white blooms at Christmas. It is common in open forest and scrub districts wherever frost is not severe. (Sim, F.F., C.G.H., pl. 84). (Fig. 90).

Other good species include *P. caffra* (Sim, F.F., C.G.H., pl. 84, Fig. 2); *P. obovata* (Sim, F.F., C.G.H., pl. 84, Fig. 3; Natal Plants, 313); and *P. Bowkeri* (Harv. Thes. Cap. pl. 131).

Peddiea africana. *Intozane.* An evergreen shrub 4 to 8 feet high, common in eastern districts, the flowers numerous in a stalked umbel, resembling those of *Daphne indica* and as sweetly



Fig. 140.—*Spiraea tomentosa*.
Pink May.

Fig. 141.—*Spiraea japonica*.
Red May.

scented. Sometimes they are yellow, more frequently greenish yellow. (Sim, F.F., C.G.H., pl. 153, Fig. 2; Natal Plants, pl. 87).

Pelargonium. Soft-wooded evergreen shrubs or herbs, of which there are very many South African species, from among which most of the Pelargoniums and Geraniums of horticulture have been raised. A century or more ago Europe was enamoured with Cape Pelargoniums more than has ever been the case in South Africa, and the success attending their cultivation there has been greater than here, probably because under artificial conditions where care counts their requirements are better met. But the group known as Show Pelargoniums often do remarkably well here without any care whatever.

Peltophorum africanum. An evergreen unarmed Acacia-like tree, found in the Transvaal and Swaziland, having beautiful abruptly 2-pinnate foliage and terminal racemes of bright yellow flowers. Grows from seeds. (Sim, F.F., P.E.A., pl. 49b).

Pittosporum viridiflorum. *Mkwenkwe.* A small evergreen fairly hardy tree, with shining light green foliage and terminal racemes of greenish-yellow sweetly scented flowers. Occurs from the mountains to the coast in the eastern districts. Easily raised from seeds. (Sim, F.F., C.G.H., pl. 12).

Plumbago capensis. A straggling or sub-scandent evergreen shrub frequent in the frostless shale scrubs, and often cultivated as a shrub or hedge even where light frosts occur. It suckers freely, and is mostly propagated by that means. It makes a nice clump, or rough hedge, and is very pretty when covered, as it usually is during summer, with its racemes of pale blue flowers. (Sim, F.F., C.G.H., pl. 137). (Fig. 96).

There is also a white variety of this species. (Fig. 142).

Podalyria. Some pretty purple species occur in the Western Province.

Podocarpus. Though they can hardly be recommended for their flowering qualities there are few prettier garden trees, (or wild trees either) than the *Yellowwoods*. All belong to the forest region and are absent from the dry districts and also from the sub-tropical coast belt north of Durban. All are propagated by seeds.

P. elongatus. *Bastard Yellowwood* is finally a very large tree, and has smaller and narrower leaves than the others. (Sim, F.F., C.G.H., pl. 150, and F.F., P.E.A., pl. 97; Marloth's Flora of South Africa, pl. 18).

P. latifolius. *Real Yellowwood.* A large forest tree, having wider leaves than the last and these leaves are straight. (Marloth's Flora of South Africa, pl. 17a, Fig. C5; also = *P. Thunbergii* Hk.; Sim, F.F., C.G.H., pl. 148).



Fig. 142.—*Plumbago capensis alba*.



Fig. 143.—Protea cynaroides.

P. falcatus. *Falcate Yellowwood.* More drooping habit, with longer and falcate leaves. The prettiest species of the three, especially as a young and middle-aged tree. (= *P. Thunbergii* Hk., var. *falcata*, Sim. F.F., C.G.H., pl. 149, and plate of tree opposite page 55).

Polyrea bracteosa = *Combretum bracteosum*.

Polygala. A genus of herbs, shrublets and shrubs, of which only a few of the many South African species reach shrub size. They can be increased by seeds and cuttings. The best are:—

P. oppositifolia. A leafy bush 4 to 6 feet high, often covered with its purple flowers and well worth cultivation. (Sim. F.F., C.G.H., pl. 15, Fig. 6; Natal Plants, pl. 398).

P. myrtifolia is very similar. (Sim. F.F., C.G.H., pl. 15, Fig. 5).

P. virgata. A virgate few-leaved species, having long terminal racemes of fairly large purple flowers. As good as many exotic favourites.

Portulacaria afra. *Spekboom.* A succulent shrub common in the Fish and Keiskama river valleys and in other similar hot dry localities, growing to 10 or 12 feet high and in its season covered with its pretty little pink flowers. It strikes easily, makes a good hedge or good specimen shrub, and cultivates anywhere where frost is not very severe. (Sim. F.F., C.G.H., pl. 19).

Protea. (Fig. 1, Frontispiece). A large South African genus of small trees, shrubs and shrublets, producing large capitate flower heads, and collectively known as *Sugar-bushes*. They are partial to poor gritty soils along the mountain ranges and particularly at all altitudes in the South Western districts. I have never seen one in cultivation in South Africa but in Europe they occur in the larger botanical collections, grown from seeds. Many of the species have very beautiful flowers of a unique class and it is difficult to understand their absence from cultivation. Their soil-requirements and climatic-requirements are very similar to those of the *Ericas*, but seeds seem the most likely mode of propagation for I have not yet heard of one being struck as a cutting. Among the best species are:—

P. grandiflora: **P. mellifera:** **P. lepidocarpon:** **P. hirta:** **P. mellifera** (Fig. 1, Frontispiece); **P. cynaroides** (Fig. 143). (For illustrations see Marloth's *Flora of South Africa*, Vol. 1: Sim. F.F., C.G.H., plates 125, 126, 127 and 128; Natal Plants, pl. 218).

Protorhus longifolia. A beautiful evergreen half-hardy tree, having leaves 6 inches long, many of which in winter change bright red. The flowers are not conspicuous but the fruits are. Easily raised from seed, and a good street tree.

(Natal Plants, plates 69 and 383, and = *Rhus longifolia*; Sim, F.F., C.G.H., pl. 47).

Psychotria capensis = *Grumilea capensis*. A free-flowering Rubiaceous shrub having terminal cymes of yellow flowers and dark leathery leaves. It belongs to the forest districts but is often outside the forest and flowers best as a fully exposed little shrub upon rock. (Sim, F.F., C.G.H., pl. 85).

Ptaeroxylon utile. *Sneezerwood*. A large evergreen forest tree, but more frequently a big bush, especially on shale, in which condition it flowers freely. Flowers small, white, numerous, scented; leaves pinnate and shining. A handsome tree but variable in its response to cultivation. (Sim, F.F., C.G.H., pl. 31; Harv. Thes. Cap. tab. 17).

Pygeum africanum. *Red Stinkwood*. A large evergreen tree of the eastern forest districts, closely resembling Portugal Laurel in foliage. Flowers white, in terminal racemes. Well worth cultivation if only for its foliage, but requires a moist spot. (Sim, F.F., C.G.H., pl. 63).

Rauwolfia natalensis. An evergreen stream tree of the eastern coast and midland districts, having very distinctive large shining leaves and corymbs of small white flowers. Very pretty but requires moisture. (Sim, F.F., C.G.H., pl. 156).

Rhamnus prinoides. *Blinkblaar*. An evergreen shrub common in the midland and upper eastern-districts, having bright shining leaves, small flowers, and numerous berries which change through green and red to black. Makes a good hedge. Easily raised from seed. (Sim, F.F., C.G.H., pl. 37).

Rhigozum trichotomum. A rigid shrub 3 to 4 feet high, peculiar to the hot dry districts of the Keiskama and Fish River valleys and similar localities, having few and small leaves, but numerous yellow flowers like those of *Reinwardia trigyna*. One of the few flowering shrubs suitable for that class of country. (Sim, F.F., C.G.H., pl. 119, Fig. 2).

Rinorea ardisiaefolia (= *Alsodeia ardisiaefolia*). A small evergreen Violaceous tree of the Natal and Pondoland coast and midland forests, very floriferous, with pretty little pure white flowers. Usually found inside forest or dense scrub, but I have seen a pretty hedge of it, flowering freely, which had been struck from cuttings. (Sim, F.F., C.G.H., pl. 15).

Rhus. A large genus of mostly evergreen shrubs or trees having usually trifoliate leaves and small green flowers in panicles, followed by small berries which in some cases or under certain conditions colour bright red. Some species frequent coast sand-dunes and suit such sites, either as shrubs or hedges; *R. viminalis* is one of the few shrubs which endure Karroo conditions; *R. erosa* and *R. Dregeana* are peculiar to the kopjes of

the Stormberg and Orange Free State and are very pretty shrubs, while many others frequent the forest and grass-veld districts, *R. laevigata* growing into a large tree. (Sim, F.F., C.G.H., plates 45, 46, 47, 48, 49 and 104).

Ruellia. Acanthaceous shrubs or shrublets, free-flowering, and worth cultivation. Several species.

Salix capensis. *Cape Willow*. Almost the only tree along much of the Orange and other dry-country rivers; growing only within reach of the water, and seldom making a large tree. Strikes easily from cuttings and can be grown beside any stream or pond. (Sim, F.F., C.G.H., pl. 146).

S. Wilmsii and *S. Woodii* are similar stream species from the Transvaal and Natal respectively. The illustrations in Engler's "Die Pflanzenwelt Afrikas," Taf. XXIV. and XXV., named *S. Woodii* are wrongly named and should be named *S. babylonica*.

Schmidelia monophylla. A small tree of the eastern forest districts, having distinct unifoliate foliage and erect spikes of small white flowers. Worth cultivation (Sim, F.F., C.G.H., pl. 32).

S. erosa, *S. deceptiens* and *S. africana* are three-foliate species having similar inflorescence of small white flowers, which, besides other localities, frequent the coast sand-dunes and may be useful in that class of site. (Sim, F.F., C.G.H., plates 32 and 33).

Schotia brachypetala. A shrub or tree of the warmer eastern districts, often semi-deciduous and the young leaves have a copper-coloured tint. Panicles terminal, crimson. (Natal Plants, pl. 390).

S. speciosa. *Small Boerbean*. A small thorn-scrub tree, covered in spring with its crimson flowers, mostly produced along the old wood. Leaves small. (Sim, F.F., C.G.H., pl. 57, Fig. 2).

Schrebera Saundersiae is an evergreen shrub up to 10 feet height, producing abundantly its white Jasmine-like flowers, which are sweetly scented. Grows from seed. (Harv. Thes. II., pl. 40).

Serruria. Slender Western Proteaceous shrubs or shrublets, requiring usual Proteaceous conditions. (Sim, F.F., C.G.H., pl. 131, Fig. 4). *Mimetes* and *Nivenia* are somewhat similar, also all western.

Smodingium argutum. A dioecious evergreen Natal shrub. 3 to 8 feet high, closely resembling some 3-foliate *Rhus* species, which in autumn gets covered with bright red small flattened berries.

Sparmannia africana. *Stock-rose*. A soft-wooded shrub, 10 to 20 feet high, found in the Port Elizabeth neighbourhood,

producing large cordate leaves and good trusses of white petal-
led flowers, having curious yellow-headed barren filaments, those
of the perfect stamens being purple. Cultivated in Europe as a
greenhouse plant. Cultivates easily and strikes from cuttings.
(Sim, F.F., C.G.H., pl. 19).

Sterculia Alexandrae and *S. murex* are rare trees, of strik-
ing foliage form, and both are recommended as having edible
seeds.

Strophanthus capensis. A forest climber, or if kept down
and exposed a shrub, having weird and curiously coloured yellow-
ish flowers with very long petals. A curiosity. (Sim, F.F.,
C.G.H., pl. 103, Fig. 9).

S. grandiflorus. Flowers much larger and longer tailed than
S. capensis. Abundant as a trailing shrub on the hot sandy
dunes around Lourenco Marques. Well worth cultivation. (Sim,
F.F., P.E.A., pl. 80b).

Sutherlandia frutescens. *Cancer-bush*. A herbaceous
Leguminous shrub 2 to 3 feet high, flowering freely in mid-
winter in the cold districts of Natal, the flowers are like Swan-
sonia but larger, scarlet or bright red, handsome, in axillary
racemes. Easily raised from seed. Often dies during second year.

Tamarix articulata. A small deciduous tree found in the
dry stream-beds of the driest Karroo, which produces freely its
spikes of small pink flowers. Stands sites too dry for most
other shrubs and has pretty Cypress-like foliage. (Sim, F.F.,
C.G.H., pl. 103, Fig. 4).

Tarennia pavettoides. A shrub or small tree of the eastern
districts with abundant white flowers like those of the Christmas
tree, (*Pavetta lanceolata*). Well worth cultivation. (Sim, F.F.,
C.G.H., pl. 86).

Tecoma Ricasoliana (= *Bignonia Mackenzii*, and *Podranea*
Ricasoliana). A vigorous Bignoniaceous evergreen straggler,
easily kept in bush form by frequent clipping, highly ornamental,
and common in cultivation, but native in Pondoland. Strikes
from cuttings, and there are several colour-varieties of it; the
most common is lilac-white, but others are more purple. The
flowers are two inches across, numerous, on terminal panicles.
(Sim, F.F., C.G.H., pl. 119, Fig. 91). The finest form comes
from the Zimbabwe ruins, Rhodesia.

Tecomaria capensis (= *Tecoma capensis*). A straggling
shrub with terminal racemes of bright-red flowers; the brightest
shrub of the eastern thorn veld. Common in cultivation, easily
struck, and forms a good specimen or hedge if kept in form.
(Sim, F.F., C.G.H., pl. 119; Natal Plants, pl. 272).

Thespesia populnea. A shrub or tree, often sub-scandent,
very similar to *Hibiscus tiliacens* in foliage and flower, occurs
on Zululand Coast and northward. In India it is used as a street.

Fig. 144.—*Tecomaria capensis*.

Fig. 145.—*Tecoma Smithii*.

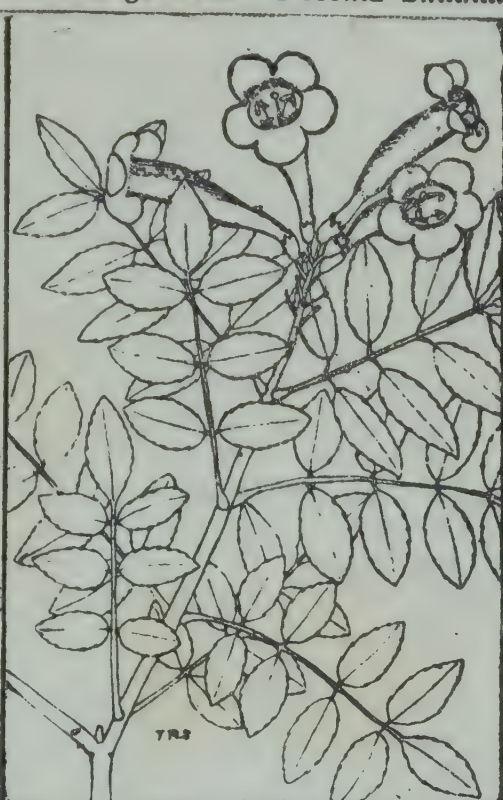


Fig. 146.—*Tecoma stans*.

Fig. 147.—*Tristania conferta*.

tree. Flowers 3 inches across yellow, ultimately brown. (Sim, F.F., P.E.A., pl. 10).

Toddalia lanceolata. *White Ironwood.* A large evergreen forest tree, but also on shale scrub or sand often a much-branched highly ornamental foliage shrub, the glossy dark trifoliate leaves being usually waved along the margins. Easily raised from seed. (Sim, F.F., C.G.H., pl. 22; F.F., P.E.A., pl. 25).

Trichocladus grandiflorus. One of the beauties of the warmer Natal forests, being an evergreen tree of medium size, which in its season is covered with panicles of beautiful white flowers, the petals being an inch long. At a distance it resembles *Calodendron capense*, and is as floriferous as an *Azalea*.

Toxicophlaea Thunbergii = *Acocanthera venenata*.

Trichilia emetica. *Umkuhlu.* The finest shade tree of the sub-tropical districts, being usually a large or very large tree with heavy pinnate foliage and good habit. The flowers are not conspicuous. It does not endure frost, and on shallow shale soils is less satisfactory. (Sim, F.F., C.G.H., pl. 27; F.F., P.E.A., pl. 15).

Turraea floribunda. *Wild Honeysuckle.* A straggling shrub, but easily kept in form, with terminal clusters of sweetly scented yellowish flowers. Likes to be near a stream. (Natal Plants, pl. 246, as *T. heterophylla*).

Turraea obtusifolia. A compact bush, 3 to 5 feet high, usually found on the sand-dunes but cultivates easily and is free-flowering and well worth cultivation; the axillary flowers are white, about an inch long, followed by a flower-like arrangement of coloured seeds. (Sim, F.F., C.G.H., pl. 26, Fig. 4).

Vernonia. Composite shrubs or herbs, very various among themselves, but some are worth cultivation as flowering shrubs, especially *V. mespilifolia*, of the eastern districts, and *V. senegalensis*, of sub-tropical districts, both having large lax corymbose panicles of light-lilac flowers. (Sim, F.F., P.E.A., pl. 73).

Virgilia capensis. *Keurboom.* A small evergreen Leguminous tree, abundant from Port Elizabeth westward, and often cultivated elsewhere; the sweet-scented flowers are produced in many-flowered axillary racemes and are from lilac to violet in colour. Easily raised from seed, but the tree likes moisture all the year round. (Sim, F.F., C.G.H., pl. 56).

Voacanga Thousarsii. *Kahlu.* A fairly large tree growing sparingly in Natal and freely in the Zululand coast swamps and northward, having large shining leaves, and rotate white, star-shaped flowers, 2 inches or more across, with an objectionable smell, especially when old. These white flowers are dotted throughout the swamp bush, and enliven the landscape. The

The tree can be raised from seed but requires sub-tropical swamp conditions. (Sim, F.F., P.E.A., pl. 81).

Willow. See *Salix*.

Zizyphus mucronata. *Umpafa*. A spinose tree, usually small, with bright shining foliage, small flowers and abundant brown berries from which it is easily raised. As it produces two spines together, one forward and one backward, it makes an excellent kaffir-proof hedge, and it also forms an ornamental tree with drooping branches. (Sim, F.F., C.G.H., pl. 36; F.F., P.E.A., pl. 24b; Natal Plants, pl. 47).

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ಪ.ಸಂಖ್ಯೆ..... ೩೩೦೧ ಪ.ಸಂಖ್ಯೆ.....

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